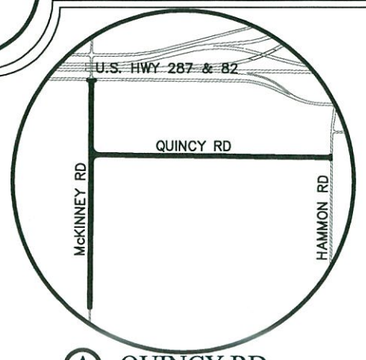
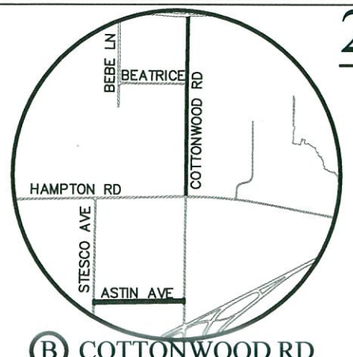
2019 SEAL COAT PROJECT

SEAL COAT SURFACE TREATMENT OF VARIOUS CITY STREETS

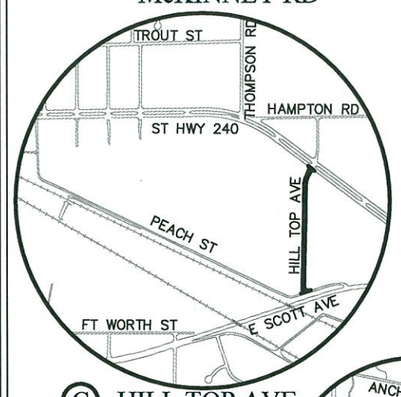
CWF19-100-12



(A) QUINCY RD
McKINNEY RD

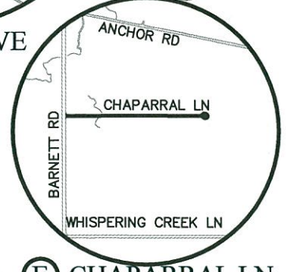


(B) COTTONWOOD RD
ASTIN AVE

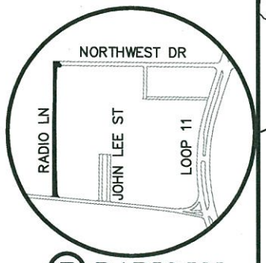


(C) HILL TOP AVE

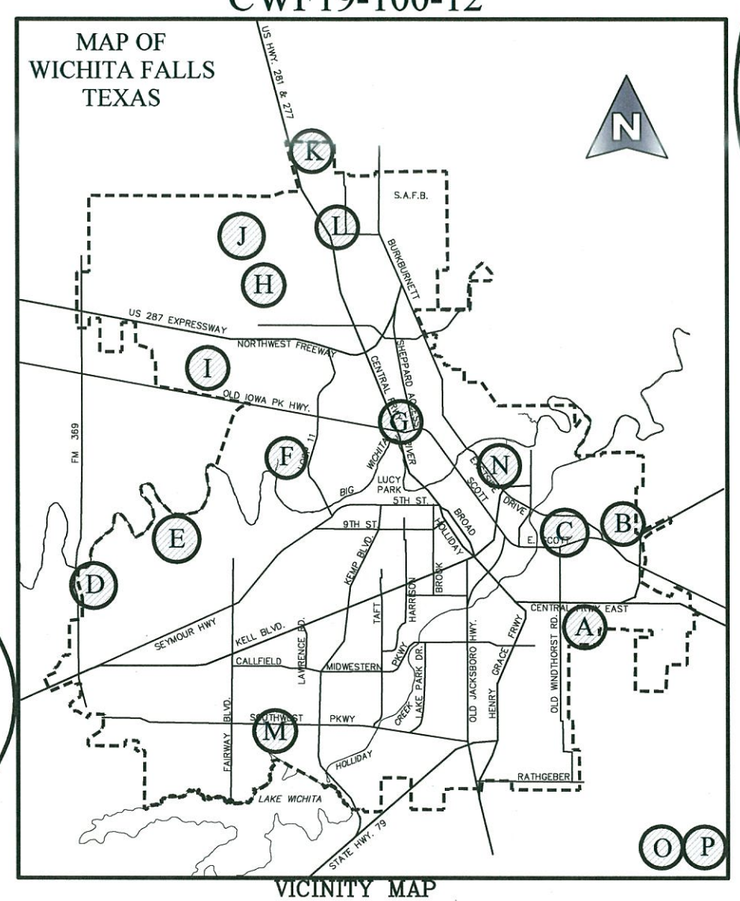
(D) MAVERICK TRAIL



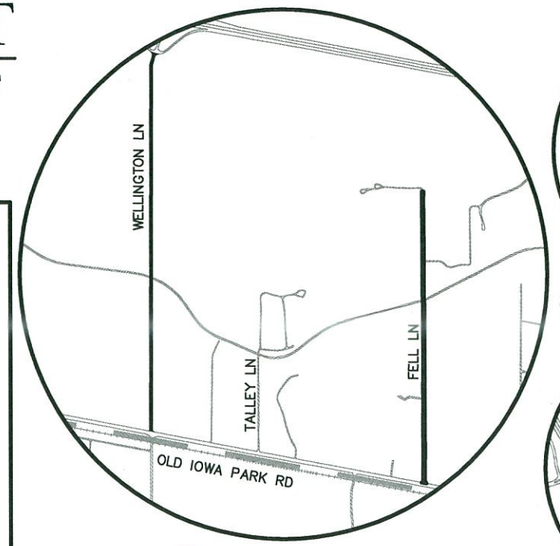
(E) CHAPARRAL LN



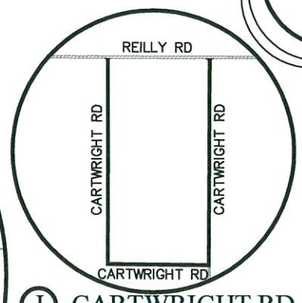
(F) RADIO LN



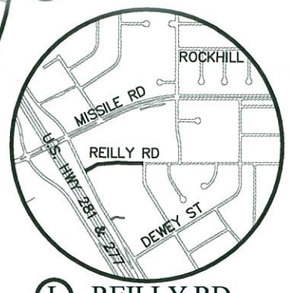
VICINITY MAP



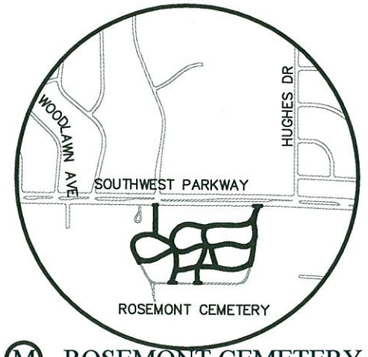
(I) PLEASANT VIEW
FELL LN



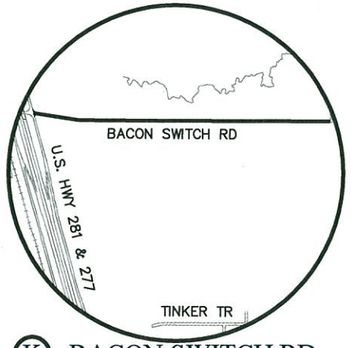
(J) CARTWRIGHT RD



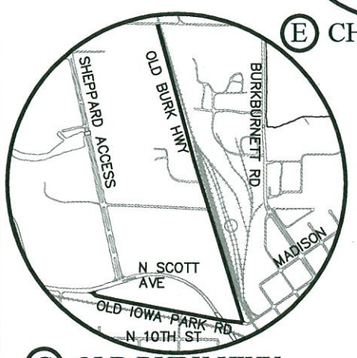
(L) REILLY RD



(M) ROSEMONT CEMETERY



(K) BACON SWITCH RD



(G) OLD BURK HWY
OLD IOWA PARK RD

(H) KIEL LN

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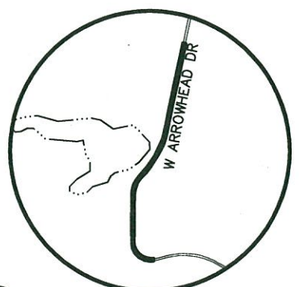
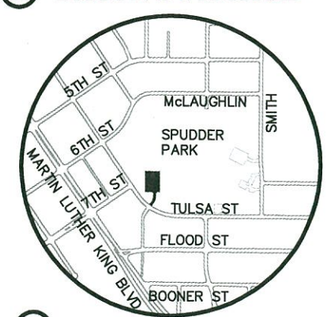
(O) PAWNEE TRAIL



(P) W ARROWHEAD DR



(N) SPUDDER PARK
PARKING LOT

STEPHEN SANTELLANA
MAYOR

DARRON LEIKER
CITY MANAGER

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

APPROVED: Russell Schreiber — DIRECTOR OF PUBLIC WORKS — 1-15-19 DATE

RECOMMENDED: Dan Lowell, P.E. — CITY ENGINEER — 1-15-19 DATE

2019 Seal Coat Streets Project – CWF19-100-12

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STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED
PROFESSIONAL ENGINEER
T. Blane Boswell, P.E.
1-16-19
ENGINEERS SEAL

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SECTION Q

PROJECT SPECIFIC SPECIAL REQUIREMENTS AND SPECIFICATIONS

PURPOSE: This section is intended to address project specific needs which are unique in nature. The subject matter in this section is intended to modify and supersede the **Public Works Construction Standards – North Central Texas**, October, 2004 published by and available through the North Central Texas Council of Governments, and, Section L through P of this document.

This Section Q contains the following subsections:

	SPECIAL WARRANTY
	INSURANCE
	WEATHER DAYS
	DELAYS; EXTENSIONS OF TIME; LIQUIDATED DAMAGES
404.4	SEAL COAT
801	TEMPORARY TRAFFIC CONTROL
804	THERMOPLASTIC STRIPING
	CLEANING

SPECIAL WARRANTY: The Contractor shall guarantee all material and workmanship for a period of one (1) year from the date of final acceptance by the Director of Public Works as outlined in Section L. The guarantee shall specifically include the direct labor and material cost to replace any faulty material at no cost to the owner.

INSURANCE

The Contractor must furnish a copy of its Certificate of Liability Insurance. The insurance coverage must meet the minimum amounts required by the Contract, including: Commercial General Liability: $1,000,000 aggregate and $600,000 per occurrence; Automobile Liability: $600,000 aggregate or $500,000 for personal injury and $100,000 for property damage; Workers' Compensation: Statutory Limits. The City of Wichita Falls (or "Certificate Holder") should be named as an Additional Insured on General Liability and Automobile Liability policies. The City of Wichita Falls (or "Certificate Holder") should be provided a Waiver of Subrogation on General Liability, Automobile Liability, and Workers' Compensation policies. Endorsements providing for additional insured and waiver of subrogation must be provided. There should be a provision for 30 days' advance written notice of cancellation or material change shown on the Certificate of Liability Insurance. See the North Central Texas Council of Governments' Standard Specifications for Public Works Construction at 103.4 and the City's Supplemental Conditions for more information.

WEATHER DAYS

The number of adverse weather days shall be determined on a monthly basis from the first calendar day to the last calendar day of each month. An adverse weather day shall be a day in which inclement weather caused the Contractor to be unable to perform work during 50% of the normal working hours within the day (including weekends and holidays only if work is scheduled or attempted) and which delayed the Contractor's work critical to the timely completion of the Project. Adverse weather day claims/requests shall be project and work type specific. If the Contractor is not scheduled to work on any given day (i.e. weekends and holidays), that day shall not automatically be granted as an adverse weather day. The number of claimed/requested adverse weather days will be reviewed and evaluated by the Project Engineer/Manager and Project Inspector. The Project Inspectors Daily Logs shall be the Log of Record. The Contractor shall be entitled to a time extension equal to the number of justifiable adverse weather days as deemed by the Project Engineer/Manager. The Contractor shall submit weather day claims/requests, in writing, with each monthly pay request. Failure to submit claims/requests in accordance with this specification will result in no extension of time being granted for that period.

108.8 DELAYS; EXTENSIONS OF TIME; LIQUIDATED DAMAGES: All work required under this Contract, including final clean up, shall be completed on or before the elapse of **ninety (90)** calendar days from the authorization to begin work.

If the CONTRACTOR fails to complete the Contract prior to the completion date, considering approved extensions of time, liquidated damages will be charged for each calendar day that the work remains incomplete. The City will deduct from any monies due or coming due to the CONTRACTOR an amount equal to **$240.00** per Calendar Day for failure to complete all the work under the Contract in the time specified therefore, until that work is, in all things, completed to the satisfaction of the Engineer. In the case where the remaining amount due the CONTRACTOR is less than the total amount of liquidated damages, the City shall have the right to recover the difference from the CONTRACTOR or the CONTRACTOR'S surety.

The CONTRACTOR shall not be entitled to any claims against the City for damages for hindrances or delays, from any cause whatsoever, including weather, in the progress of the work or any portion thereof.

The time for completion of the work may be extended upon written request from the CONTRACTOR to the Engineer, provided the request is based only on delays or suspensions resulting from a change in the scope of the work which has been approved by the Engineer. The length of such extension, if approved by the Engineer, shall be the equivalent number of calendar days during which the work was suspended, or in proportion to the amount of extra work compared to the amount of the original Contract. Requests for extensions in completion dates shall be made in writing within twenty (20) days of occurrence. All such requests for

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extension shall include sufficient supporting data to evaluate the request. The Engineer may request additional supporting data from CONTRACTOR, when he deems it necessary.

Time lost due to delays caused by Subcontractors, an inadequate construction force, the specific means and methods employed by the CONTRACTOR, or failure of the CONTRACTOR to properly place orders for equipment or materials will not be justification for extensions of time.

404.4 SEAL COAT

Description:
404.4-SC: Construct a surface treatment consisting of one application of a single layer of asphalt material covered with a single layer of **precoated** aggregate of the gradation shown on the plans for the specific street or as directed by the Engineer.

404.4-DC: Construct a surface treatment consisting of one application of a single layer of asphalt material covered with a single layer of **precoated** GRADE 4 aggregate followed by another layer of asphalt material covered by a single layer of GRADE 5 aggregate.

The work covered in this section shall apply to the furnishing of labor, equipment and materials required to prep surface, place asphalt cement, place aggregate, roll, broom and clean the pavement as indicated on the plans or as directed by the Engineer. Seal coat shall only be placed from May 1 to August 31. Any placement outside of these dates will require written approval by the Engineer.

Rate of Application of Materials: The asphalt and aggregate shall be applied at the rates as specified below:

1st course or single course (404.4-DC or 404.4-SC)	Gallons of asphalt per square yard	GR 4 Aggregate CY to SY
	0.33	1:120
2nd course or single course (404.4-DC or 404.4-SC)	Gallons of asphalt per square yard	GR 5 Aggregate CY to SY
	0.27	1:115

These rates may be adjusted depending on existing road conditions at the time of placing the seal coat. Any adjustments shall be approved by the Engineer.

Asphalt Cement: Furnish a new asphalt design if the grade or source for any of the components changes. The asphaltic materials used shall be of the type and grade as specified by the Owner and shall meet the requirements of Item 302.3 Bituminous Materials. This project requires the use of AC-20-5TR. The asphalt cement shall be homogenous, free from water, shall not foam when heated to 347 degrees F, and shall meet the requirements of Table 302.2.3 of the NCTCOG.

Aggregate: The Engineer shall approve all stockpile locations. Temporary stockpile locations shall not obstruct traffic or sight distance, interfere with the access from abutting property, interfere with roadway drainage, or be located on a surface that would alter or modify the aggregate composition.

Aggregate shall be composed of dry, sound, durable particles of processed stone or steel slag having a percent of wear of not more than 35 when tested in accordance with ASTM C131 Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. Crushed gravel shall not be allowed. The aggregate shall be free from organic matter, clay, loam, or coated pebbles and shall contain no more than five-percent of slate, shale, schist, or soft particles. Gradation of **precoated** aggregate shall be according to the table below.

Aggregate Gradation Requirements for Grade 4 Aggregate

Sieve	% Retained
1/2"	0-5
3/8"	20-40
#4	95-100
#8	98-100

Aggregate Gradation Requirements for Grade 5 Aggregate

Sieve	% Retained
1/2"	0
3/8"	0-5
#4	50-80
#8	98-100

Materials that are not uniformly and/or properly coated, in the opinion of the Engineer, shall not be accepted for use. Precoated aggregate shall be aggregate of the type and grades specified, coated with 0.5 to 1.5 percent (by weight) of residual bitumen from a uniform precoating AC-10 material mixed at a plant. Do not precoat limestone rock asphalt aggregate that contains visual surface moisture or excessive quantities of fines. When limestone rock asphalt is used, it shall be fluxed with 0.5 to 1.5 percent (by weight) of fluxing material. The mixes may be mixed at a central mixing plant and shipped ready for use. Mixes that do not

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maintain flow qualities such that the precoated aggregate may be satisfactorily spread by approved mechanical spreading devices will not be acceptable.

Precoated aggregate will show no stripping when tested in accordance with TxDOT test method Tex-530-C Effect of Water on Bituminous Paving Mixtures. If antistripping additives are required to meet this requirement, they shall meet the requirements of TxDOT Item 301 Asphalt Antistripping Agents.

Meet gradation and Table 3 (below) requirements before precoating. Furnish precoated aggregate that spreads uniformly using approved mechanical spreading equipment.

Table 3
Aggregate Quality Requirements

Property	Test Method	Requirement	Remarks
SAC	AQMP	As shown on the plans	
Deleterious material, %, max	Tex-217-F, Part I	2.0	Not required for lightweight aggregate. For LRA, deleterious material includes iron pyrites
Decantation, %, max	Tex-406-A	1.5	
Flakiness index, max	Tex-224-F	17	Unless otherwise shown on the plans
Los Angeles abrasion, %, max	Tex-410-A	35	All aggregates except LRA
		40	LRA
Magnesium sulfate soundness, 5 Cycle, %, max	Tex-411-A	25	
Micro-Deval abrasion, %, max	Tex-461-A	–	Not used for acceptance purposes. Used by the Engineer as an indicator for further investigation.
Coarse aggregate angularity, 2 crushed faces, %, Min	Tex-460-A, Part I	85	Unless otherwise shown on the plans. Only required for crushed gravel
Additional Requirements for Lightweight Aggregate			
Dry loose unit wt., lb./cu. ft.	Tex-404-A	35–60	
Pressure slaking, %, max	Tex-431-A	6.0	
Freeze-thaw loss, %, max	Tex-432-A	10.0	
Water absorption, 24°hr., %, max	Tex-433-A	12.0	Unless otherwise shown on plans.
Additional Requirements for Natural LRA			
Naturally impregnated bitumen content, % by wt.	Tex-236-F	4.0–7.0	
White rock content, % by wt.	Tex-220-F and Tex-236-F	15–35	Applies to aggregate retained on the #4 sieve

Prevent segregation, mixing of the various materials or sizes, and contamination with foreign materials when aggregates are stockpiled. The Engineer will reject contaminated stockpiles. Provide adequate initial cooling of precoated aggregate to prevent asphalt or aggregate damage due to excessive heat buildup in stockpiles. When asphalt cement is the precoating material, limit stockpile height to 3 feet immediately after production. Consolidate stockpiles after adequate cooling, as approved. The Engineer will reject stockpiles showing evidence of damage due to excessive heat buildup.

Construction Methods: Materials shall be approved by the Engineer prior to beginning work.

Equipment and Preparation: All storage tanks, piping, retorts, booster tanks, and distributors used in storing or handling asphalt shall be kept clean and in good operating conditions at all times. They shall be operated in such a manner that there shall be no contamination of the asphalt with foreign material. The area to be treated shall be clean of dirt, dust or other deleterious matter by sweeping or other approved methods. If it is found necessary by the Owner, the surface shall be lightly sprinkled just prior to the application of the asphaltic material.

Test Strips: A test strip will be required before beginning any construction. The Engineer will choose the location of the test stripe. The test strip location will be near a roadway listed on the project. The Engineer may stop asphalt application and require construction of test strips at the Contractor's expense if any of the following occurs: nonuniformity of application continues after corrective action; on 3 consecutive shots, application rate differs by more than 0.03 gal per square yard from the rate directed; or any shot differs by more than 0.05 gal per square yard from the rate directed. The Engineer may require additional test strips until surface treatment application meets specification requirements. Test strips shall be considered subsidiary to the project.

Surface Preparation: Remove dirt, dust, or other harmful material before sealing by sweeping with rotary brooms or other approved methods immediately prior to application of asphalt. Remove any vegetation along pavement edges. No asphalt shall be applied until the street surfaces are thoroughly cleaned to the satisfaction of the Engineer.

Application of Asphalt: The asphalt cement shall be applied at a temperature between 300-375°F not to exceed 375°F. All asphalt heated above 375°F shall be rejected. The Contractor shall abide by the limits recommended in Item 300 of the TxDOT Standard Specifications November 2014 Edition. It shall be the responsibility of the Contractor to provide and maintain in good working order a recording thermometer at the storage heating unit at all times. All distributors shall be preapproved by the Engineer before being used on the project.

Apply seal coat when air temperature is above 50°F and rising. Do not apply seal coat when air temperature is 60°F and falling. In all cases, do not apply seal coat when the surface temperature is below 60°F. The pavement shall be free of surface moisture during periods of sealcoat placement.

Asphaltic material of the type and grade shown shall be applied on the clean surface by an approved type of self-propelled pressure distributor so operated as to distribute the material in the quantity specified, evenly and smoothly, under a pressure necessary for proper distribution. The distributor shall be equipped with an onboard computer system, which controls the rate of application. Furnish a volumetric calibration and strap stick for the distributor in accordance with Tex-922-K, Part 1. Provide documentation for distributor calibration performed not more than 5 years before the date first used on the project. A

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computerized distributor display may be used to verify application rates. Verify application rates at a frequency acceptable to the Engineer. The Contractor shall provide all necessary facilities for determining the temperature of the asphaltic materials in all of the heating equipment and in the distributor, for determining the rate at which they are applied, and for securing uniformity at the junction of two distributor loads. After beginning work, should the yield on the asphaltic materials appear to be in error, the distributor shall be recalibrated in a manner satisfactory to the Owner before proceeding with the work.

Asphaltic material for each course shall be applied a full lane width or half width of the road way, whichever is greater. Adjust the shot width so operations do not encroach on traffic or interfere with the traffic control plan. No traffic or hauling shall be permitted over the freshly applied asphaltic materials. Asphaltic materials shall not be applied until immediate covering with aggregate is assured. Use paper or other approved material, at least 30" in width, at the beginning and end of each shot to construct a straight traverse joint and to prevent overlapping of the asphalt. Match longitudinal joints with lane lines. The Engineer may require a string line to keep joints straight with no overlapping. Use sufficient pressure to flare the nozzles fully. All manholes and valve boxes shall be accurately located and covered with paper before the asphalt is applied. Care should be taken during application of any asphalt to shield curb and gutter from the asphalt spray.

Do not apply asphalt to the roadway until all of the following are met: traffic control methods and devices are in place as shown on the plans or as directed; the loaded aggregate spreader is in position and ready to begin; haul trucks are loaded with enough aggregate to cover the shot area and are in place behind the spreader box; rollers are in place behind the haul trucks.

Stop application if it is not uniform due to streaking, ridging, puddling, or flowing off the roadway surface. Verify equipment condition, operating procedures, application temperature, and material properties. Determine and correct the cause of nonuniform application.

Application of Aggregate: Precoated aggregate, of the type and grade shown on the plans, shall be immediately and uniformly applied and spread by approved calibrated mechanical spreaders, operated on the rear of the aggregate trucks or as a separate power-driving unit. Each spreader shall be equipped with an on board computer system which controls the rate of application so as to apply the rates specified. These spreader units shall be approved by the Owner prior to the start of work. The aggregate shall be applied at the approximate rate indicated on the plans. The aggregate shall not be applied in such thickness as to cause blanketing. Back-spotting or sprinkling of additional aggregate material and application of additional asphalt material over areas that have insufficient aggregate cover of asphalt shall be done by hand whenever necessary.

Before rolling, repair spots where coverage is incomplete. Repair can be made by hand spotting or other approved method. When necessary, apply additional asphalt material to embed aggregate.

The entire surface shall then be rolled with pneumatic tire roller (3-6 tons) to ensure proper embedding into the bitumen. The rolling shall be continued until no more aggregate can be worked into the surface. Rolling shall meet the governing specifications for Item 301.1.2 Rolling of embankment, Subgrade or Flex Base. If rollers are unable to keep up with the spreader box, stop application until rollers have caught up, or furnish additional rollers. Keep roller tires asphalt free. The contractor shall, at minimum, maintain and operate two pneumatic rollers during all sealcoat operations. Each pneumatic roller shall have a total compacting width of not less than 5 feet and shall have a minimum contact pressure of 45 pounds per square inch. Each trip shall overlap the previous trip by approximately one-half the width of the front wheels.

The contractor shall be responsible for the maintenance of the surface and the distribution of the excess aggregate until the work is accepted. Any additional aggregate required to cover bleeding or fat spots shall be furnished and applied by the contractor subsidiary to this item.

Cleanup: After completion of the seal coat, all debris resulting from the construction shall be cleaned up and removed from the site of the work to an approved place of disposal. Gutters shall be cleaned of dirt, aggregate, or other materials which would clog the gutter. All manholes and valve boxes shall be exposed and any excess asphalt or aggregate cleaned and removed. The entire premises of the work shall be left in a clean condition satisfactory to the Engineer, and all costs of cleanup shall be included in the contract unit prices for the items of work involved. Each street should be cleaned immediately after the seal coat is placed.

Surplus: All surplus aggregate shall be delivered to the City at the River Road Storage Facility. This is located at 1515 River Road. The Contractor shall haul and stockpile in locations specified by the facility superintendent. Hauling times will have to be coordinated with the City. This shall be considered subsidiary to the project.

Measurement & Payment: This item will be paid for by the square yard of Seal Coat of the type and number of courses as shown on the plans in place as determined by the square yards of surface area covered and accepted. The unit contract price shall be full compensation for furnishing all labor, materials, equipment and all other incidentals required to complete the work as specified, including but not limited to; surface prep, sweeping, brooming, vegetation removal from pavement edge, protection of appurtenances not to be treated, hauling, storing materials, staging, placing asphalt, precoated aggregate, spreading aggregate, rolling, cleaning, delivery of surplus aggregate to the City, correction of any defects, and any maintenance required for each street before final acceptance.

801 TEMPORARY TRAFFIC CONTROL

Description: The work covered by this special specification consists of providing all the personnel (including flaggers) and/or signing and marking necessary to ensure no

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unnecessary interference with traffic or access to private property and safe construction work zones as directed by the Engineer and as specified herein.

This also includes the preparation of a Traffic Control Plan for all phases of the Project. The contractor shall phase and schedule work as to avoid the most disruption. Methods shall be taken to expedite delays due to construction. Traffic shall be kept off of the seal coat until it has cured back long enough that is does not track material. This shall be considered subsidiary to the Project.

Reference Standards: Flagging personnel, hand signaling procedures and traffic control devices, including temporary pavement markings, shall comply with the requirements of the "Texas Manual of Uniform Traffic Control Devices" latest revision.

Execution: A Traffic Control Plan shall be submitted prior to work for review and approval by the Engineer. Contractor shall put in place proper temporary traffic control personnel and/or devices prior to the beginning of work in any public right-of-way to direct and protect vehicular and pedestrian traffic. The Contractor shall be required to cover, reset or remove all traffic control devices which may be inconsistent with traffic patterns during all phases of construction.

Traffic Control Devices: All streets that have restricted access shall be protected by means of effective barricades on which shall be placed acceptable warning signs. All permanent and temporary (construction zone) traffic control devices must conform to TxMUTCD and TXDOT Standards, latest revision.

The Contractor shall be responsible for the immediate repair or replacement of all traffic control devices that become damaged, moved or destroyed, of all lights that cease to function properly, and of all barricade weights that are damaged, destroyed, or otherwise fail to stabilize the barricades. The Contractor shall further provide sufficient surveillance of all traffic control devices at least once every twenty-four (24) hours.

The Contractor shall furnish names, addresses, and phone numbers of at least three (3) individuals responsible for the placement and maintenance of traffic control devices. These individuals shall be "on call" twenty-four (24) hours per day, seven days per week during the times any traffic control devices, furnished and installed by the Contractor, are in place. The required information shall be submitted to the Engineer at the Pre-construction Conference.

The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to a cessation in any other operations of the project until Engineer determines traffic control is in compliance.

Flaggers: The Contractor shall furnish flag persons to adequately control traffic. Flaggers shall be able to speak English and communicate sufficiently with the public and shall be neat in appearance. All costs incurred to provide such flag persons shall be incidental to the Project.

Flaggers shall be in compliance with MUTCD requirements, specifically the following: Flaggers shall be equipped with a slow-stop paddle in lieu of the standard flag. The STOP/SLOW sign paddle shall be eighteen (18) inches square with letters at least six (6) inches high. A rigid handle shall be provided.

This combination sign should be fabricated from light semi-rigid material, and shall have an octagonal shape. The background of the STOP face shall be red with white letters and border. The background of the SLOW face shall be orange with black letters and border. The STOP/SLOW paddle shall be retro-reflectorized.

Flaggers shall wear an approved hard hat and retro-reflective safety vest at all times while actively flagging on the Project. The retro-reflective material shall be orange, yellow, white, silver, strong yellow-green or a fluorescent version of one of these colors and shall be visible at a minimum distance of one thousand (1,000) feet. The retro-reflective clothing shall be designed to clearly identify the wearer as a person and be visible through the full range of body motions. The Contractor shall be subject to a cessation in other operations for failure to adhere to the clothing requirements as listed above.

The Contractor shall provide two-way radios for flag persons.

The Contractor shall coordinate the flagging operations in a manner which causes as little delay to the traveling public as possible, and at no time shall the delay exceed five (5) minutes. In the event that the Contractor is unable to meet the maximum delay requirements, operations shall shut down until such time a new traffic control plan is developed which does meet the maximum delay requirement.

If hauling operations create hazards for the traveling public, the Contractor shall be required to provide additional flaggers, as directed by the Engineer. All costs incurred to provide the additional flaggers shall be incidental to the Project.

Measurement And Payment: The unit contract price for Temporary Traffic Control, per lump sum, shall be full compensation for furnishing all labor, materials, equipment and all other incidentals required to complete the work as specified or as directed by the Engineer, including but not limited to, coordinating with adjacent property owners, phasing of construction, installing, maintaining, relocating and subsequently removing traffic control devices. Payment will be made in partial equal increments equal to the number of months given for the construction time.

804 THERMOPLASTIC STRIPING

NO. | DATE | DESCRIPTION | BY
REVISIONS

Wichita Falls TEXAS
Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

GENERAL NOTES - SECTION Q

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2018 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SECTION Q

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED
PROFESSIONAL ENGINEER
ENGINEERS SEAL
11-19

SHEET 30 OF 18

GENERAL NOTES
SECTION Q

Description: This special specification shall govern for all consideration of work and materials with respect to the Pay Item 804.

Reference Standards: The Texas Department of Transportation Standard Specification for Construction of Highways, Streets and Bridges (Latest revision), Item 666, Reflectorized Pavement Markings (Type I Marking Materials) shall be used by the Contractor to provide thermoplastic paint striping.

Thermoplastic Pavement Markings: The CONTRACTOR shall install thermoplastic pavement markings.

CONSTRUCTION: Furnish Type II drop-on glass beads for street striping. Parking stalls will not require beads. All stripe on new paved streets shall be 100 mil thickness. The minimum thickness must be measured from the top of the thermoplastic material and not to the top of the exposed beads. Use clearly marked containers that indicate color, mass, material type, manufacturer, and batch number.

Use equipment that is maintained in satisfactory condition, meets the requirements of the National Board of Fire Underwriters and the RRC for this application, uses an automatic bead dispenser attached to the pavement marking equipment and can provide continuous mixing and agitation of the pavement marking material.

Provide a hand-held thermometer capable of measuring the temperature of the marking material.

Use equipment that can place:

- linear markings up to 8" wide in a single pass,
- lines with clean edges,
- uniform cross section and thickness, and reasonably square ends,
- skip lines between 10 and 10 ½' in length,
- an approximate stripe-to-gap ratio of 1 to 3, and a strip-gap cycle between 39 ½' and 40 ½' automatically,
- beads uniformly and almost instantly on the marking as the marking is being applied

Obtain approval for the sequence of work and estimated daily production. On roadways already open to traffic, place markings with minimal interference to the operations of that roadway. Use traffic control as shown on the plans or as approved or directed by the Engineer. Protect all markings placed under open-traffic conditions from traffic damage and disfigurement.

Establish guides to mark the lateral location of pavement markings as shown on the plans or as directed by the Engineer, and have guide locations approved before placing markings. Use material for guides that will not leave a permanent mark on the roadway.

Apply markings on pavement that is completely dry and passes the following tests. Place a sample of Thermoplastic Striping on a piece of tarpaper placed on the pavement. Allow the material to cool to ambient temperature, and then inspect the underside of the tarpaper in contact with the pavement. Pavement will be considered dry if there is no condensation on the tar paper.

Place longitudinal stripes offset from the longitudinal concrete pavement joint.

Remove and replace all applied markings that are not in alignment or sequence as stated in the plans or as stated in the specifications at the CONTRACTOR's expense.

Surface Preparation: Cleaning for New Asphalt Surfaces and retracing of All Surfaces. For new asphalt surfaces (less than 3 years old) and retracing of all surfaces, air-blast or broom the pavement surface to remove loose material, unless otherwise shown on the plans or as directed by the Engineer.

Cleaning for Old Asphalt and Concrete Surfaces. For old asphalt surfaces (more than 3 years old) and all concrete surfaces, clean in accordance with Item 678, Pavement Surface Preparation for Markings, of the 2004 TxDOT Standard Specifications Manual.

Sealer for Type I Markings. For asphalt surfaces more than 3 years old or for concrete, apply a pavement sealer before placing Type I markings on locations that do not have existing markings. The pavement sealer may be either a Type II marking or an acrylic or epoxy sealer. Follow the manufacturer's directions for application of acrylic or epoxy sealers. Place the sealer in the same configuration and color (unless clear) as the Type I markings.

Apply markings during good weather unless otherwise directed by the Engineer. If markings are placed at CONTRACTOR option when inclement weather is impending and the markings are damaged by subsequent precipitation, the CONTRACTOR is responsible for all costs associated with replacing the markings if required.

Provide uniform distribution of Type II beads across the surface of the stripe, with 40-60% bead embedment.

Prepare surface by any approved cleaning method that effectively removes contaminants, loose materials, and conditions deleterious to proper adhesion. Abrasive or water-blast cleaning is required when directed. Prepare surfaces further after cleaning by sealing or priming as recommended by pavement marking manufacturer or as directed. Use adhesive, when required, of the type and quality recommended by the pavement marking manufacturer. Do not clean concrete surfaces by grinding.

This item includes all labor, equipment, materials, and incidentals required to furnish and install Thermoplastic Pavement Markings as specified on plans. Surface preparation will be subsidiary to this item.

Pre-Fab Pavement Markings: The CONTRACTOR shall install Type C Pre-Fab Pavement Markings in accordance with TxDOT Standard Specifications Item 668. All words, arrows, and 24" stripe shall be Pre-Fab Type C pavement markings unless noted on the work order.

NO.	DATE	DESCRIPTION	BY

REVISIONS

Wichita Falls TEXAS Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

GENERAL NOTES - SECTION Q

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2018 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SECTION Q

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED
PROFESSIONAL ENGINEER
ENGINEERS SEAL

GENERAL NOTES
SECTION Q

CONSTRUCTION: Furnish prefabricated pavement marking materials. Store all materials in a weatherproof enclosure and prevent damage during storage. Obtain approval for the sequence of work and estimated daily production. Before the end of each working day, remove all waste generated from the jobsite.

Establish guides to mark the lateral location of pavement markings as shown on the plans or as directed, and have guide locations approved before placing markings. Use guide material that will not leave a permanent mark on the roadway.

Place pavement markings in alignment with the guides without deviating from the alignment and with no abrupt deviations.

Apply material to pavement that is completely dry. Pavement will be considered dry if, on a sunny day after 15 min., no condensation occurs on the underside of a 1-ft-square piece of clear plastic that has been placed on the pavement and weighted on the edges.

Follow pavement and ambient air temperature requirements recommended by the material manufacturer. If the material manufacturer establishes no temperature requirements, do not place material if the pavement temperature is below 60ºF or above 120ºF.

Place markings in accordance with the color, length, width, shape, and configuration shown on the plans. Locate alignment as shown on the plans or as directed.

Place all materials in accordance with the material manufacturer's instructions, unless directed otherwise. In addition to the manufacturer's instructions, place materials in accordance with the surface condition, moisture, and temperature requirements on this Item.

Prepare surface by any approved cleaning method that effectively removes contaminants, loose materials, and conditions deleterious to proper adhesion. Abrasive or water-blast cleaning is required when directed. Prepare surfaces further after cleaning by sealing or priming as recommended by pavement marking manufacturer or as directed. Use adhesive, when required, of the type and quality recommended by the pavement marking manufacturer. Do not clean concrete surfaces by grinding. Surface pavement shall be preheated before placement of markings.

Pavement markings must meet performance requirements. Markings shall not lift, shift, smear, spread, flow, or tear by traffic action. Markings shall present a neat, uniform appearance that is free of excessive adhesive, ragged edges, and irregular lines or contours. Markings shall have uniform and distinctive retroreflectance when inspected.

These requirements may be either visually inspected or by other testing methods. Any failure to meet requirements will result in possible removal and replacement of pavement markings. This will be at the CONTRACTOR's expense.

School zone striping shall be completed before school starts from summer break or one week after the overlay if school has already begun.

The Contractor shall polydot all striping work and get approval before spraying any paint. Failure to do so will result in the Contractor replacing the pavement surface to correct striping issues. Certain locations may require the use of a theodolite, transit or other approved surveying instruments to polydot the street at least every 25 feet along the centerline prior to the placement of pavement markings. Obtain approval from the engineer for the location and alignment of the pilot line prior to placement of pavement markings.

Measurement And Payment: Thermoplastic Paint Striping shall be measured by the linear foot (where double lines are placed, each stripe will be measured separately). Crosswalks shall be paid for by the linear foot of Prefab Type C 24 inch material. Pre-fab pavement markings shall be measured by each word, shape, or symbol. Payment shall be considered full compensation for all materials, labor and other costs associated with the performance of the Pay Item, including but not limited to; poly dotting, surface preparation, paint, hand work, glass beads, removal of poly dots as directed, and protection of pavement surface and above ground appurtenances. Surface preparation and sealer will be subsidiary to this item.

CLEANING

The Contractor shall remove all surplus material, rubbish, vegetation, and unused material from the worksite and remedy any objectionable conditions created on adjacent private property **as the construction progresses**. Loose material on roadway surfaces shall be swept, broomed and picked up. The Contractor shall ensure that the debris is not spread onto adjacent streets, drives, sidewalks or yards. Any debris inadvertently spilled or left on streets, drives, gutters, sidewalks or yards shall be promptly removed to the satisfaction of the Engineer. The Contractor shall render the street suitable, safe and convenient for traffic and leave the right-of-way in a neat and presentable condition.

Before final acceptance of the work, the Contractor shall clean the street surface, drives, walks, gutters, lawns on adjacent private property, and all right-of-ways, returning them to original condition and shall remove all machinery, tools and surplus materials from the work site. All material removed from the work site because of the final cleaning operation shall become the property of the Contractor. Final cleaning up shall be subject to approval of the Engineer and in accordance with applicable regulations. If cleaning is found unsatisfactory, payment will be withheld and no further work will be allowed to commence. Full compensation for final cleaning up will be considered as included in the prices paid for the various contract items of work and no separate payment will be made therefore.

NO.	DATE	DESCRIPTION	BY
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Wichita Falls TEXAS Blue Skies. Golden Opportunities.

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

GENERAL NOTES - SECTION Q

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2018 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SECTION Q

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED
PROFESSIONAL ENGINEER
1-16-19
ENGINEERS SEAL

SHEET 3F OF 18

GENERAL NOTES

GENERAL NOTES AND SPECIFICATION DATA:

These plans and the accompanying specifications are intended to produce a complete and working system. Items which are not specifically addressed by pay item are to be interpreted as subsidiary to the project overall. Payment as outlined in the proposal form shall constitute complete payment for all permits, materials, labor, and other items required to complete the project as shown and as specified. All debris and removed material shall be owned by the CONTRACTOR and disposed of off property or salvaged appropriately. Advise of intent to work on Saturday by close of business 5 pm Thursday.

Unless otherwise specified within these plan sheets, the book of "Standard Specifications for Public Works Construction" North Central Texas, October 2004, as amended, shall be the governing specifications for this project, unless directed otherwise by the Engineer.

Prior to commencing construction in any area, a representative of the CONTRACTOR shall walk the area with the project inspector and make a video recording which denotes the existing condition and location of the area and the date. A copy of the video tape shall be furnished to the Engineer at the pre-construction meeting.

LOCATION:

This project is to be constructed entirely within property owned by the CITY OF WICHITA FALLS, TEXAS. City of Wichita Falls, Texas. The CONTRACTOR is in no way authorized by the City to enter onto private properties for construction, storage of equipment or materials, or other purposes.
Arrangements should be made by the CONTRACTOR with the property owners for such use, and a copy of any written agreement shall be furnished to the Engineer. Equipment & Materials shall not be stored in the public right of way overnight.

TRAFFIC CONTROL:

The CONTRACTOR shall provide temporary barricades in accordance with the Texas Manual on Uniform Traffic Control Devices whenever working within the public Right-of-Way of any street or alley. All traffic control devices shall be in place prior to the start of work within the public Right-of-Way. It shall be the responsibility of the CONTRACTOR to coordinate with the City of Wichita Falls Traffic Department at (940) 761-7640 for the removal and replacement of all traffic devices. In addition, the CONTRACTOR shall provide to the city, a traffic control plan before any work is done within the public Right-of-Way. Traffic control details hAVEEe been included in the plans. The contractor shall adhere to these details and consider the details the minimum requirements.

No Street Closures will be authorized without prior approval from the Engineer.

The CONTRACTOR shall regulate the work so that no unnecessary interference with traffic or access to private property is caused by construction operations. The CONTRACTOR shall provide suitable bridges, protective barricades, and other safety equipment that my be necessary at every location where traffic must cross construction. The CONTRACTOR shall schedule operations to not affect school pick up and drop off for streets that are near schools. Contractor shall maintain through traffic in each direction, unless approved by Engineer. Operation will require flaggers at each end and possibly at each side street.

SAFETY CONSIDERATIONS:

It is the responsibility of the CONTRACTOR to provide for the safety of his workers and the general public. Guidelines established by the City of Wichita Falls are to be interpreted as a minimum effort on the part of the CONTRACTOR. The CONTRACTOR shall comply with all applicable OSHA guidelines. The CONTRACTOR shall consolidate equipment and materials in a neat and orderly manner at the close of each working day. The CONTRACTOR shall comply with all load limited streets when materials or equipment are delivered to or transported from the worksite. No driveways shall be blocked overnight or for extended time periods. Equipment shall not be stored in the cemeteries or on the road overnight. Store of equipment in city right-of-way shall be approved by Engineer.

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

Wichita Falls TEXAS Blue Skies. Golden Opportunities.

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

GENERAL NOTES

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: GENERAL NOTES

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED PROFESSIONAL ENGINEER
T. Blane Boswell, P.E.
1-16-19
ENGINEERS SEAL

ESTIMATED QUANTITIES

ESTIMATED QUANTITIES								
ITEM NO.	STREET	FROM	TO	STREET TYPE	LENGTH	WIDTH	SQ. YDS.	NOTES
404.4-SC	McKINNEY RD	US HWY 287 & 82	CITY LIMITS	ASPHALT	3194	18	6388	GRADE 4
404.4-SC	QUINCY RD	McKINNEY RD	HAMMON RD	ASPHALT	3524	16	6265	GRADE 4
404.4-SC	ASTIN AVE	STESCO AVE	COTTONWOOD RD	ASPHALT	1284	16	2283	GRADE 4
404.4-SC	HILLTOP AVE	PEACH ST	SH240	ASPHALT	1365	16	2427	GRADE 4
404.4-SC	MAVERICK TRAIL	KOVARIK RD	END	ASPHALT	1413	16	2512	GRADE 4
404.4-SC	RADIO LN	VALLEY VIEW RD	NORTHWEST DR	ASPHALT	1033	16	1836	GRADE 4
404.4-SC	OLD IOWA PARK RD	N SCOTT AVE	OLD BURK HWY	ASPHALT	2550	24	6800	GRADE 4
404.4-SC	FELL LN	OLD IOWA PARK RD	END	ASPHALT	3772	16	6706	GRADE 4
404.4-SC	CARTWRIGHT RD	REILLY RD	REILLY RD	ASPHALT	5624	16	9998	GRADE 4
404.4-SC	BACON SWITCH RD	IH44 FR RD	CITY LIMITS	ASPHALT	3863	18 VARIES	7726	GRADE 4
404.4-SC	SPUDDER PARK	PARKING LOT AT TULSA & MILL		ASPHALT			2765	GRADE 5
404.4-SC	ROSEMONT CEMETERY	AS SHOWN	AS SHOWN	ASPHALT	4670	10	5808	GRADE 5
404.4-SC	W ARROWHEAD DR	AS SHOWN	AS SHOWN	ASPHALT	3194	22-24 VARIES	9583	GRADE 4
						TOTAL	71096	

ESTIMATED QUANTITIES								
ITEM NO.	STREET	FROM	TO	STREET TYPE	LENGTH	WIDTH	SQ. YDS.	NOTES
404.4-DC	COTTONWOOD RD	HAMPTON RD	OLD PETROLIA RD	ASPHALT	2551	19	5385	TWO COURSE-GRADE 5 ON GRADE 4
404.4-DC	CHAPARRAL LN	BARNETT RD	END	ASPHALT	1662	16	2955	TWO COURSE-GRADE 5 ON GRADE 4
404.4-DC	OLD BURK HWY	PLEASANT VIEW DR	OLD IOWA PARK RD	ASPHALT	5093	20	11318	TWO COURSE-GRADE 5 ON GRADE 4
404.4-DC	KIEL LN	CITY VIEW DR	AIRPORT DR	ASPHALT	3116	14-16 VARIES	5540	TWO COURSE-GRADE 5 ON GRADE 4
404.4-DC	WELLINGTON LN	US 287 EXPRESSWAY	OLD IOWA PARK RD	ASPHALT	4907	18 VARIES	9814	TWO COURSE-GRADE 5 ON GRADE 4
404.4-DC	REILLY RD	IH44 FR RD	AIR FORCE DR	ASPHALT	774	22-26 VARIES	2236	TWO COURSE-GRADE 5 ON GRADE 4
404.4-DC	PAWNEE TRAIL	FM 2606	BOAT RAMP	ASPHALT	2519	16	4478	TWO COURSE-GRADE 5 ON GRADE 4
						TOTAL	41726	

STRIPPING QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
804-4YD	4" YELLOW DASH STRIPING-100 MILTHICK	590	LF
804-4WS	4" WHITE SOLID STRIPING-100 MILTHICK	1260	LF
804-4BS	4" BLUE SOLID STRIPING-100 MILTHICK	151	LF

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

Wichita Falls TEXAS
Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

ESTIMATED QUANTITIES

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: ESTIMATED QUANTITIES

STATE OF TEXAS
T. BLANE BOSWELL
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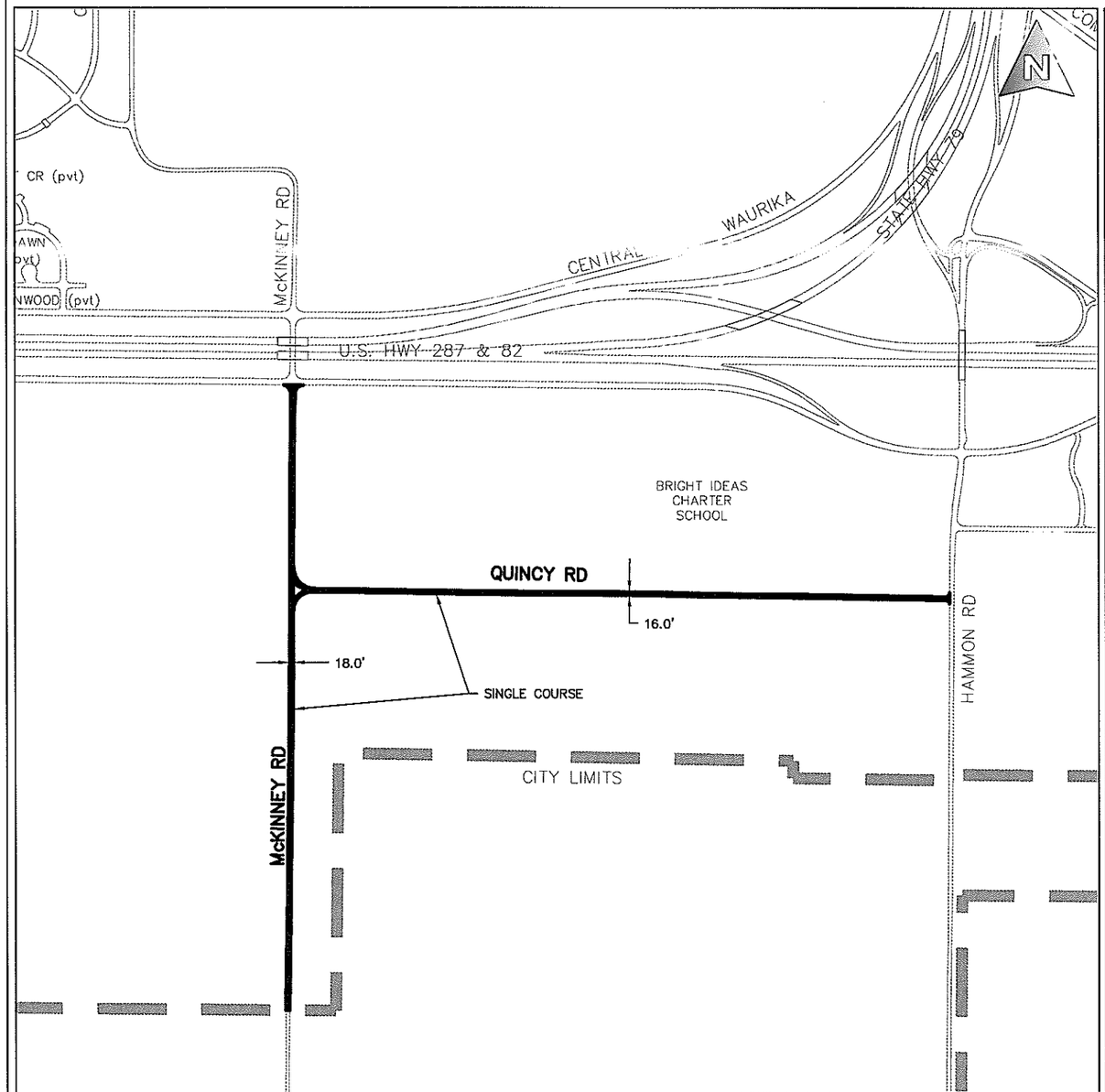
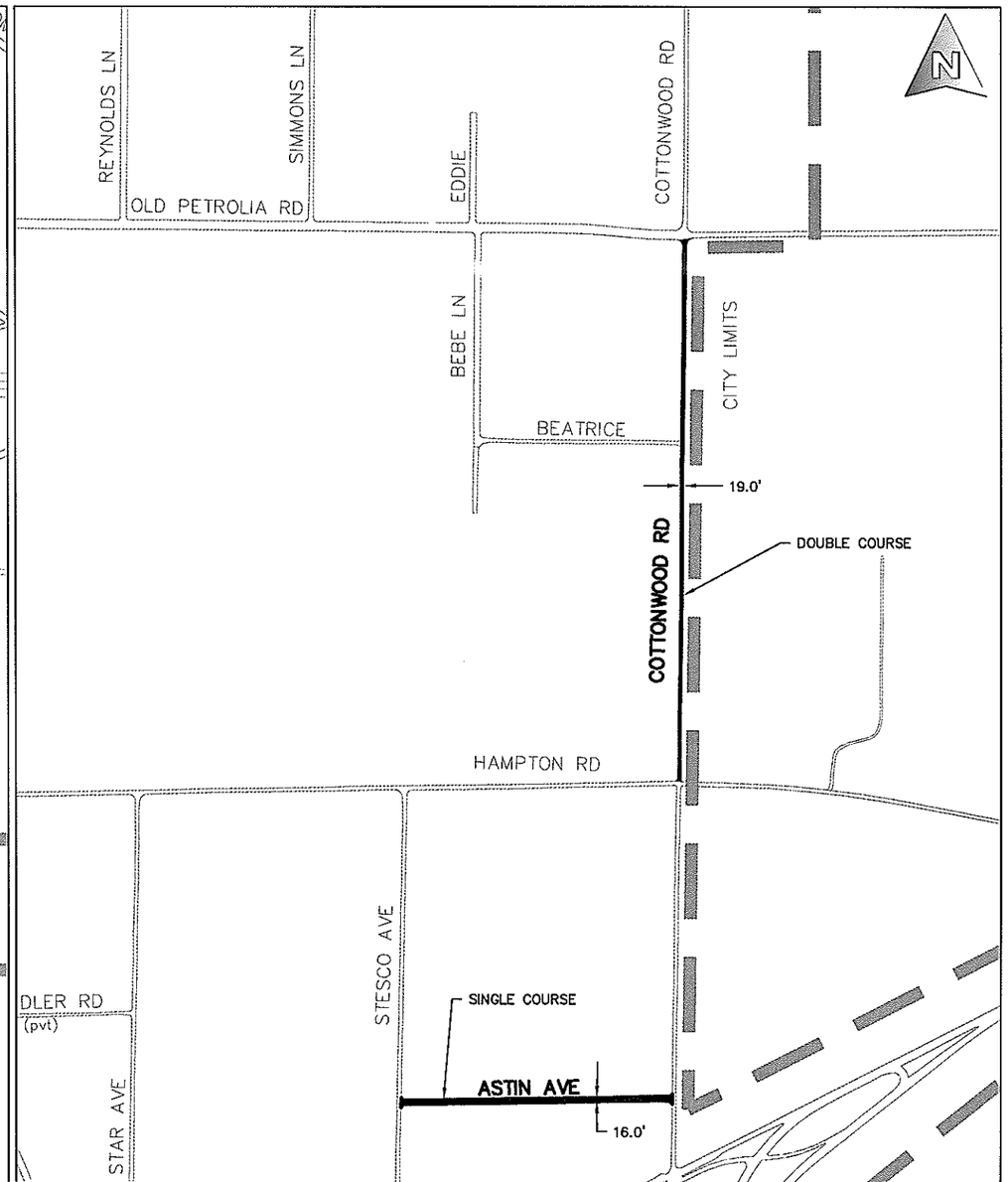
PROFESSIONAL ENGINEER
ENGINEERS SEAL



McKINNEY RD
QUINCY RD
NOT TO SCALE



COTTONWOOD RD
ASTIN AVE
NOT TO SCALE

GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

3) THE EXISTING PAVEMENT SURFACE SHALL BE THOROUGHLY CLEANED BEFORE ASPHALT IS PLACED. ALL CONCRETE, WATER VALVES, MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE COVERED WITH PAPER AND TAPE TO PROTECT FROM ASPHALT.

4) AFTER FINAL ROLLING, SURPLUS AGGREGATE SHALL BE SWEPT OFF THE SURFACE AND REMOVED ON THE SAME DAY. EXCESS AGGREGATE SHALL BE DELIVERED TO THE OWNER.

NO.	DATE	DESCRIPTION	BY

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Wichita Falls TEXAS
Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 1
McKINNEY RD, QUINCY RD,
COTTONWOOD RD, ASTIN AVE.

PROJECT MANAGER: BB
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LAYOUT: SITE PLAN-1

STATE OF TEXAS
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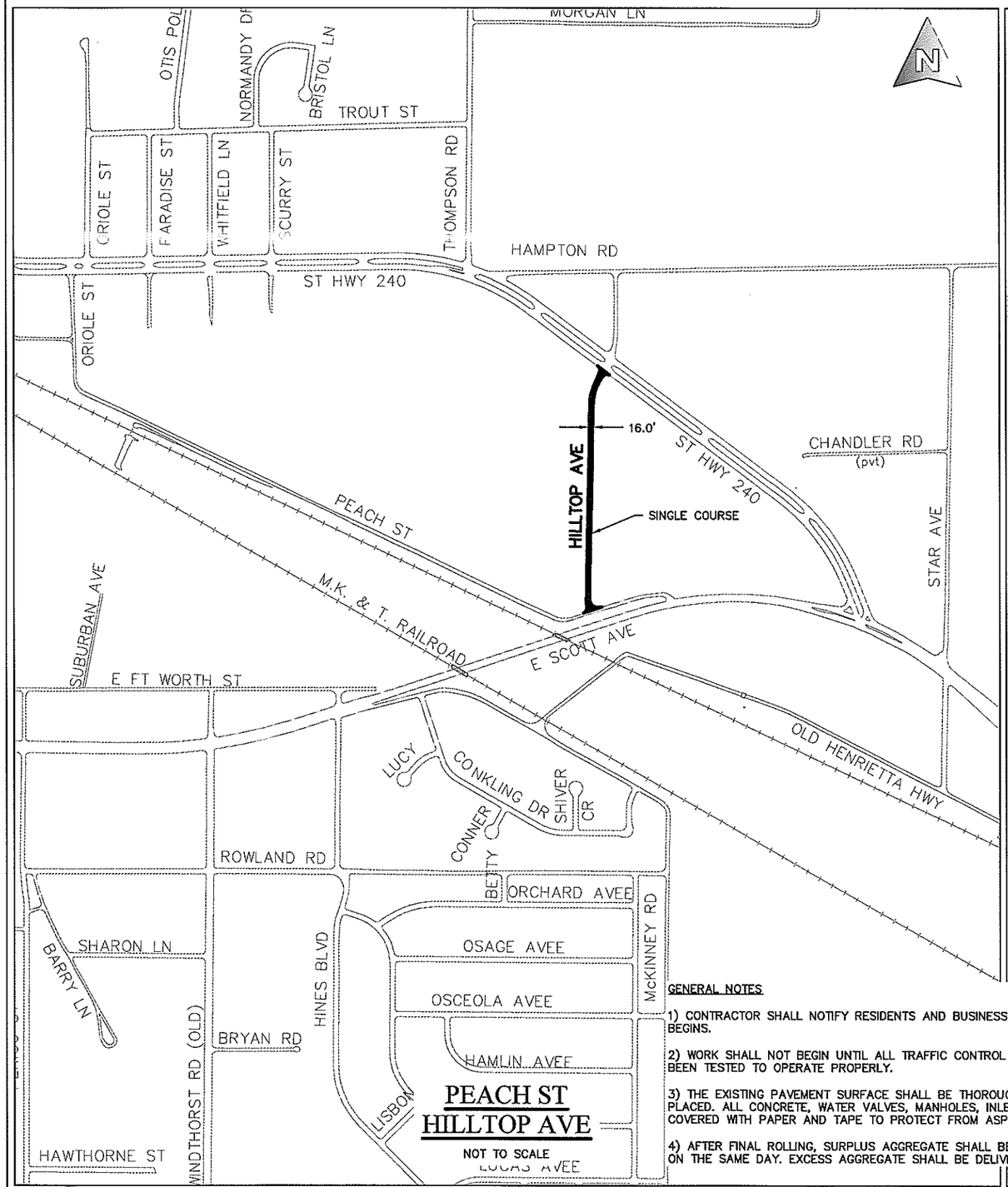
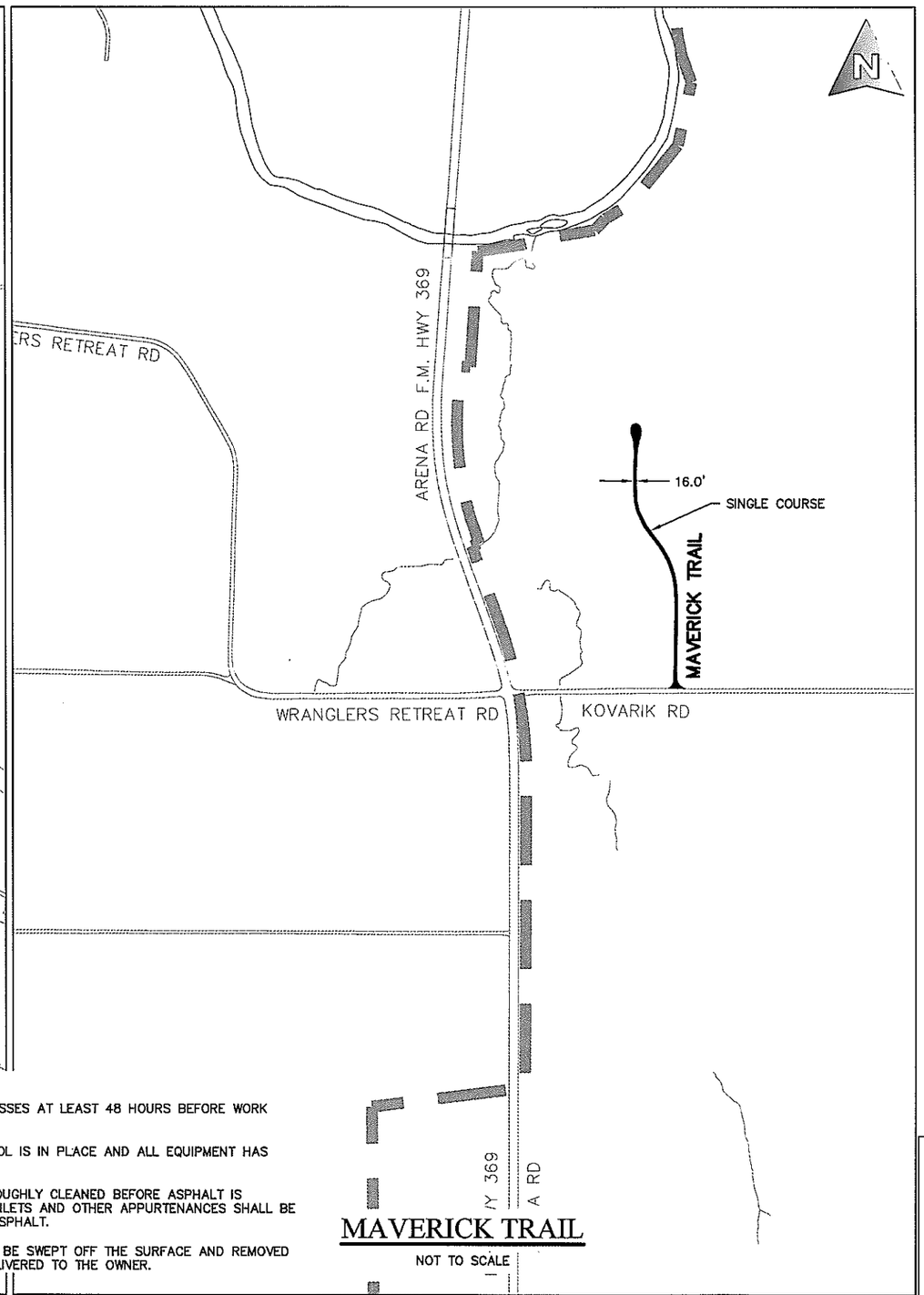
SHEET 6 OF 18





GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

3) THE EXISTING PAVEMENT SURFACE SHALL BE THOROUGHLY CLEANED BEFORE ASPHALT IS PLACED. ALL CONCRETE, WATER VALVES, MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE COVERED WITH PAPER AND TAPE TO PROTECT FROM ASPHALT.

4) AFTER FINAL ROLLING, SURPLUS AGGREGATE SHALL BE SWEPT OFF THE SURFACE AND REMOVED ON THE SAME DAY. EXCESS AGGREGATE SHALL BE DELIVERED TO THE OWNER.

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Wichita Falls TEXAS
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2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 2
HILLTOP AVE, MAVERICK TRAIL

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
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FIELD BOOK:
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LAYOUT: SITE PLAN-2

STATE OF TEXAS
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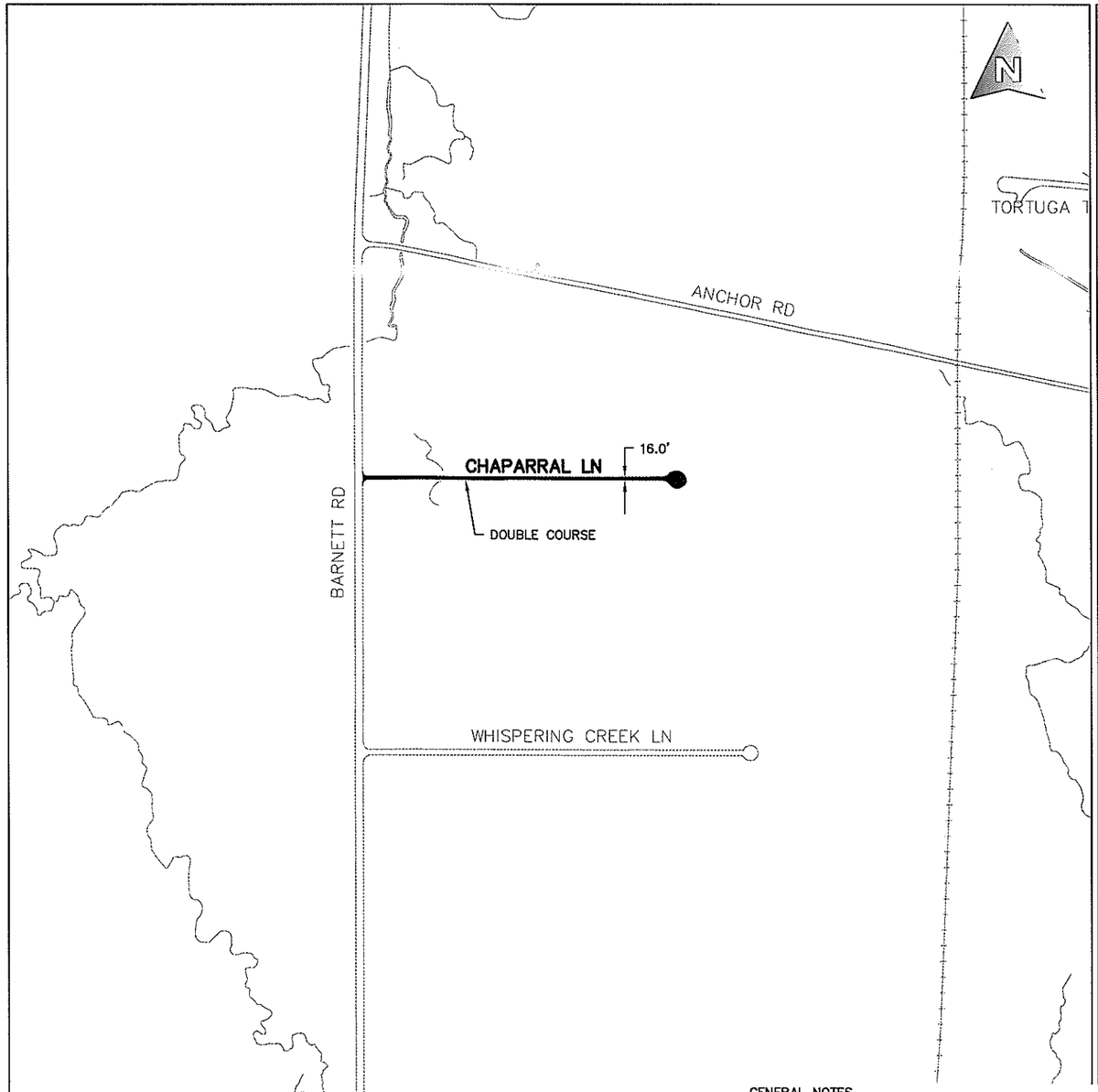
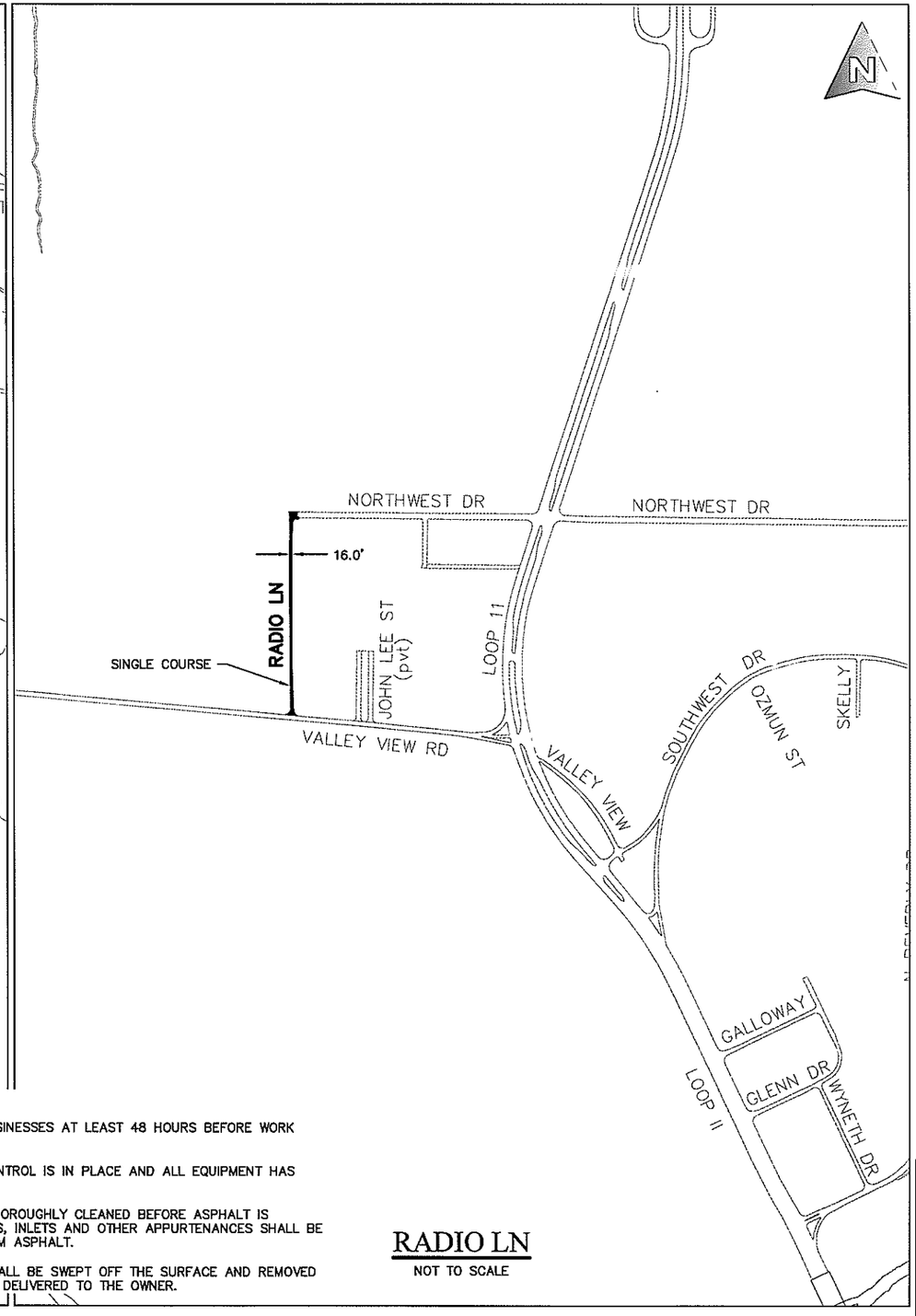


CHAPARRAL LN

NOT TO SCALE



RADIO LN

NOT TO SCALE

GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

3) THE EXISTING PAVEMENT SURFACE SHALL BE THOROUGHLY CLEANED BEFORE ASPHALT IS PLACED. ALL CONCRETE, WATER VALVES, MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE COVERED WITH PAPER AND TAPE TO PROTECT FROM ASPHALT.

4) AFTER FINAL ROLLING, SURPLUS AGGREGATE SHALL BE SWEPT OFF THE SURFACE AND REMOVED ON THE SAME DAY. EXCESS AGGREGATE SHALL BE DELIVERED TO THE OWNER.

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Wichita Falls TEXAS
Blue Skies. Golden Opportunities.

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 3
CHAPARRAL LN, RADIO LN

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
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LAYOUT: SITE PLAN-3

STATE OF TEXAS
T. BLANE BOSWELL
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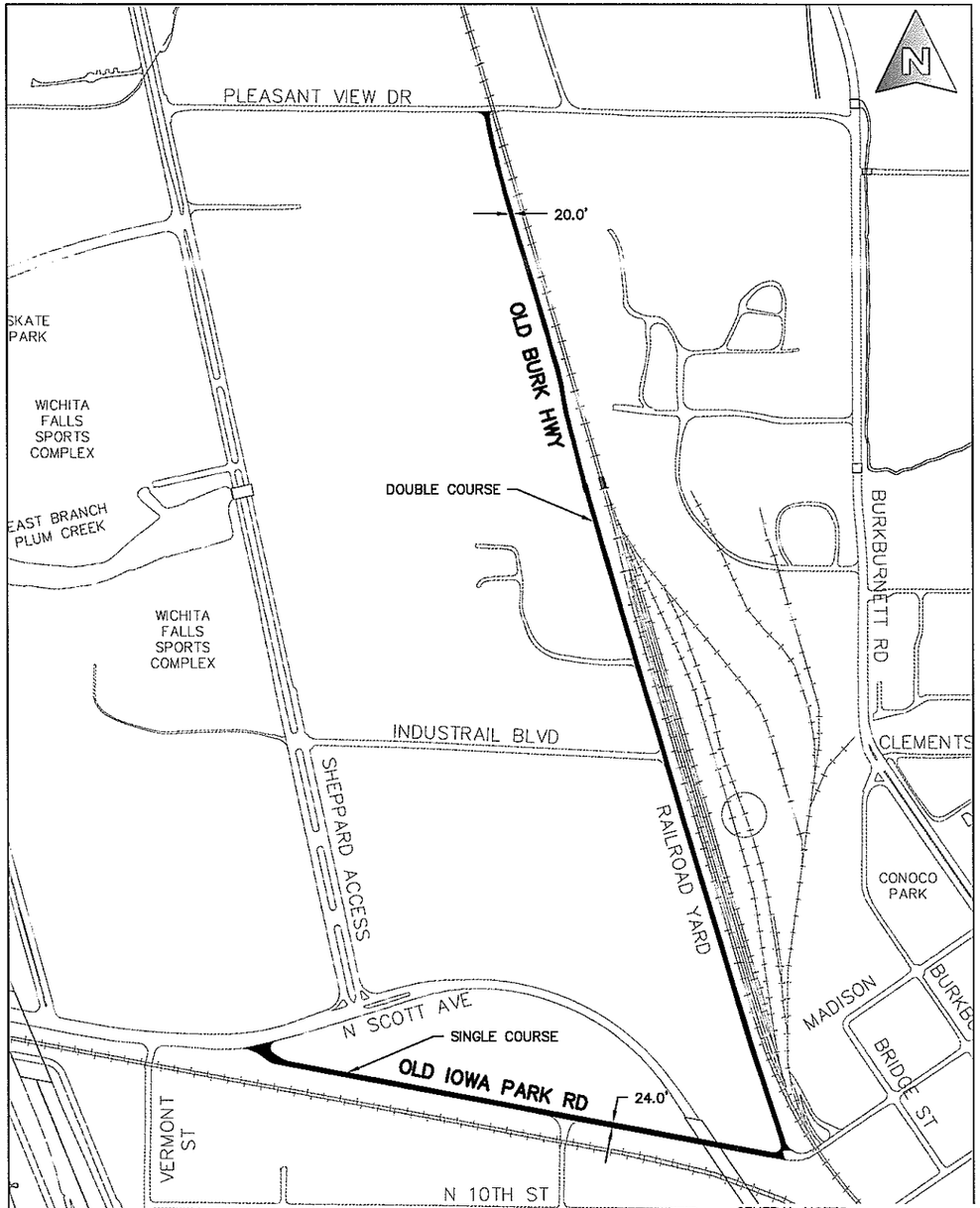
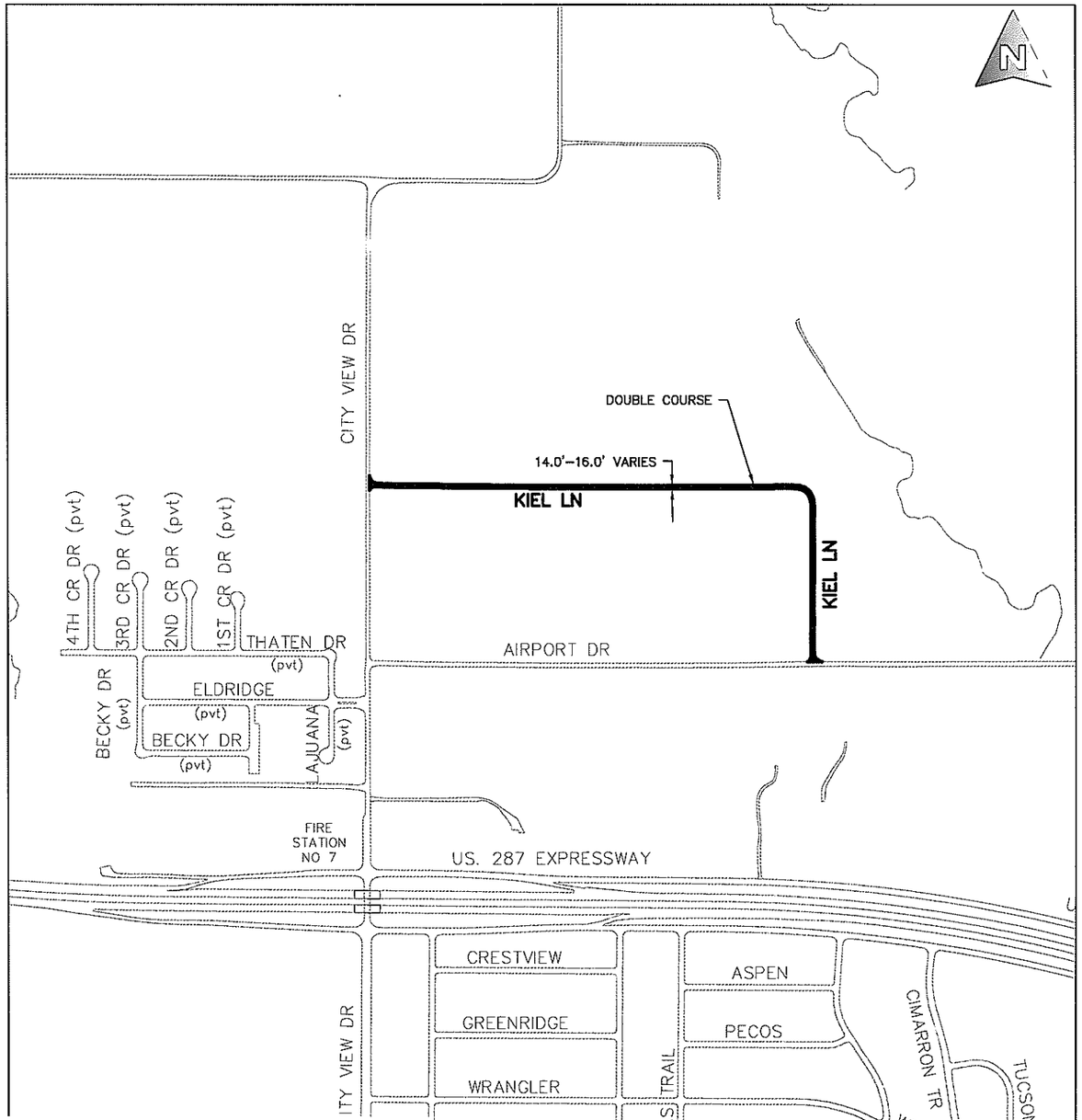
T. Blane Boswell P.E. 1-16-19
ENGINEERS SEAL

SHEET 8 OF 18





GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

3) THE EXISTING PAVEMENT SURFACE SHALL BE THOROUGHLY CLEANED BEFORE ASPHALT IS PLACED. ALL CONCRETE, WATER VALVES, MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE COVERED WITH PAPER AND TAPE TO PROTECT FROM ASPHALT.

4) AFTER FINAL ROLLING, SURPLUS AGGREGATE SHALL BE SWEPT OFF THE SURFACE AND REMOVED ON THE SAME DAY. EXCESS AGGREGATE SHALL BE DELIVERED TO THE OWNER.

NO.	DATE	DESCRIPTION	BY
REVISIONS			

Wichita Falls TEXAS
Blue Skies. Golden Opportunities.

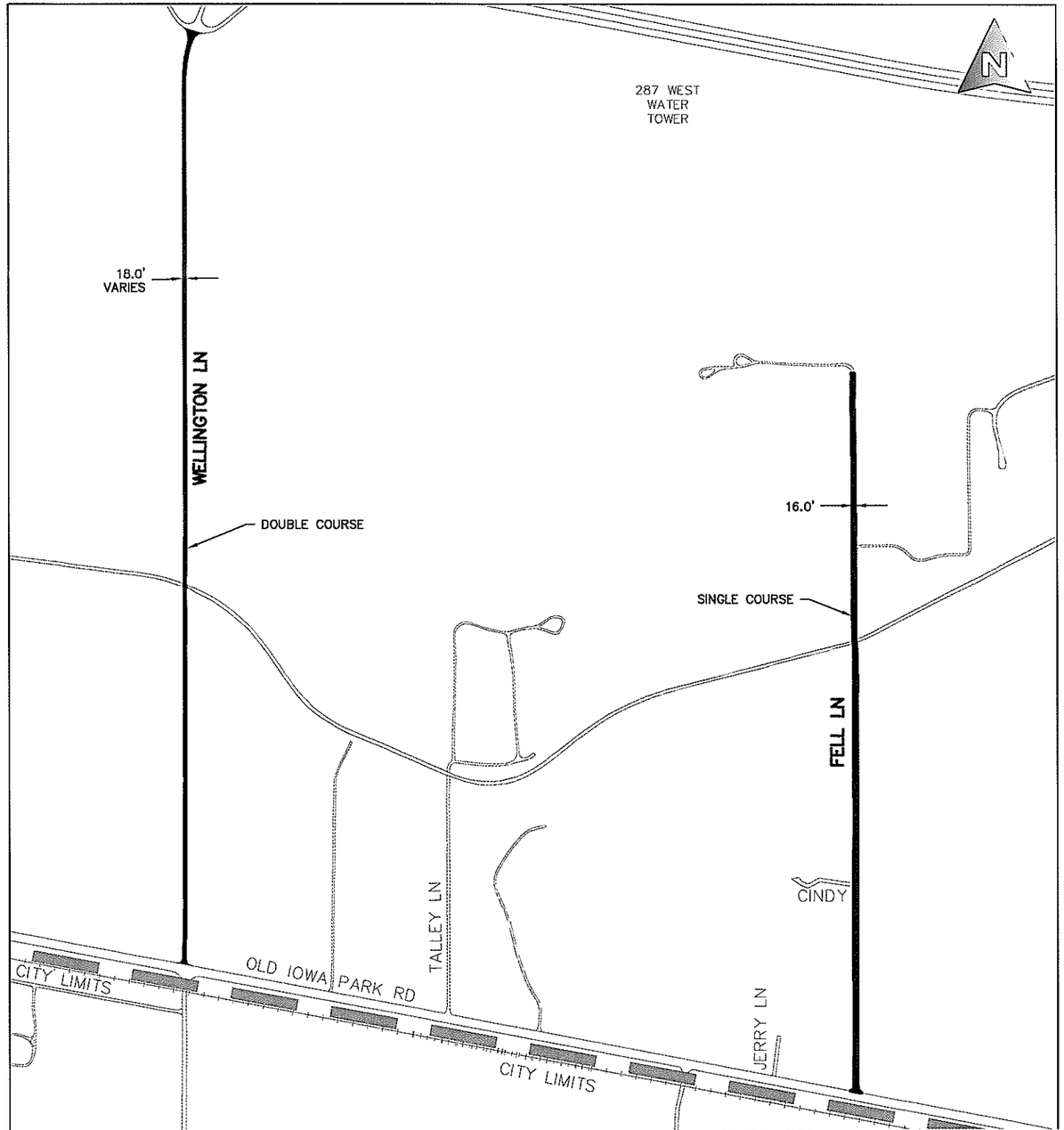
2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 4
OLD BURK HWY, OLD IOWA PARK RD, KIEL LN

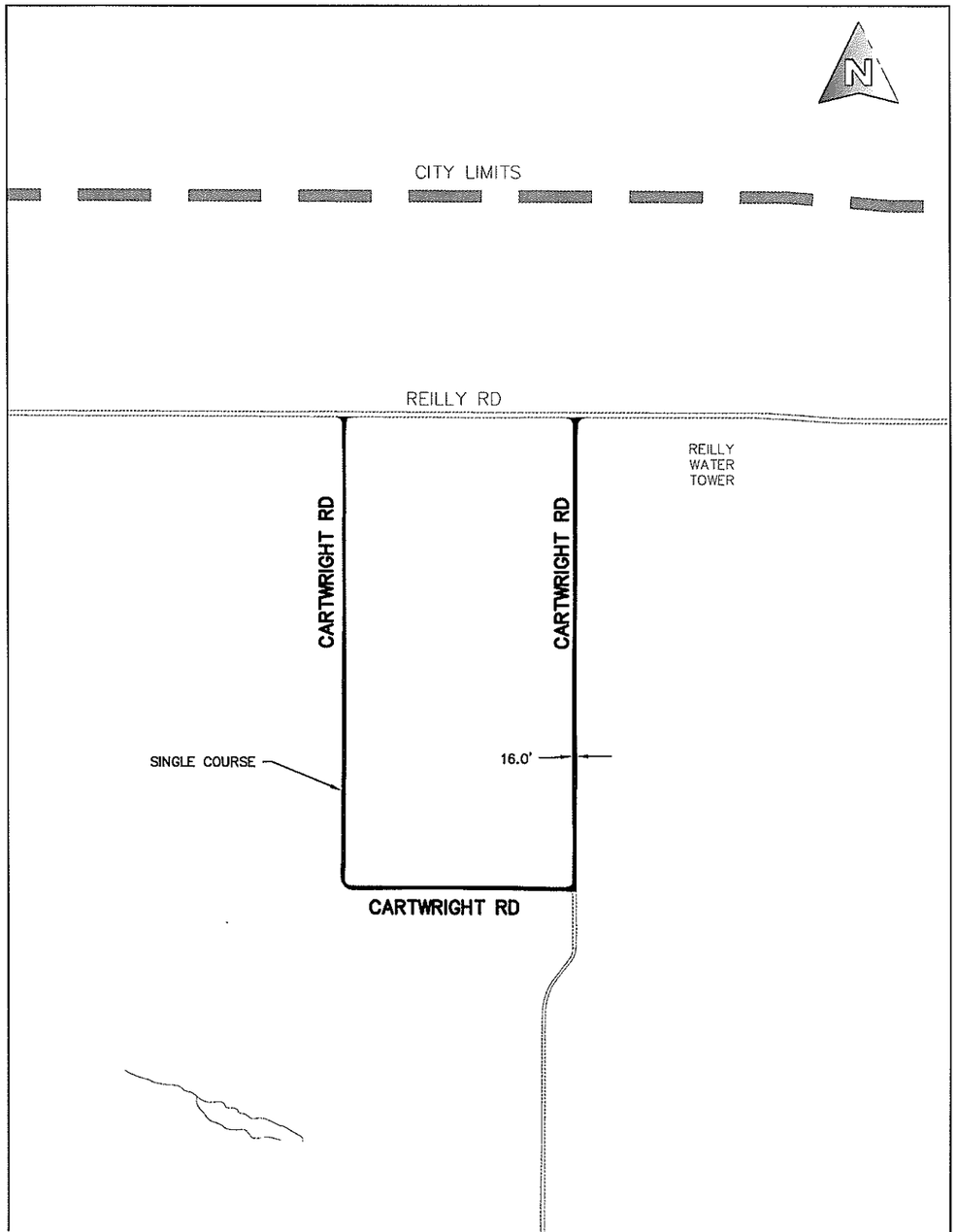
PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SITE PLAN-4

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED
PROFESSIONAL ENGINEER
T. Blane Boswell, P.E.
1-16-19
ENGINEERS SEAL

SHEET 9 OF 18



WELLINGTON LN
FELL LN
NOT TO SCALE



CARTWRIGHT RD
NOT TO SCALE

GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

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4) AFTER FINAL ROLLING, SURPLUS AGGREGATE SHALL BE SWEPT OFF THE SURFACE AND REMOVED ON THE SAME DAY. EXCESS AGGREGATE SHALL BE DELIVERED TO THE OWNER.

NO.	DATE	DESCRIPTION	BY

REVISIONS

Wichita Falls TEXAS
Blue Skies. Golden Opportunities.

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 5
WELLINGTON LN, FELL LN, CARTWRIGHT RD

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SITE PLAN-5

STATE OF TEXAS
T. BLANE BOSWELL
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PROFESSIONAL ENGINEER
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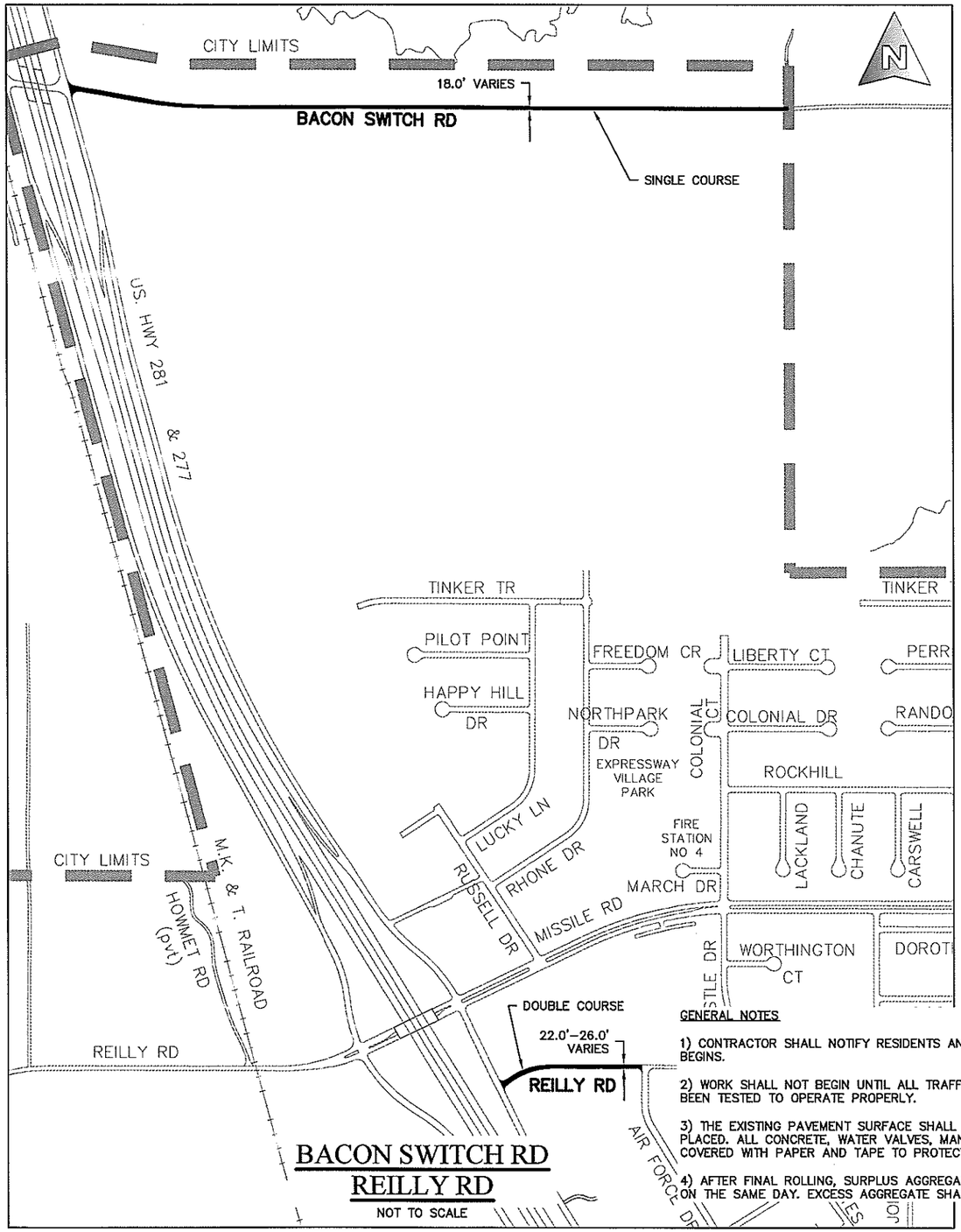
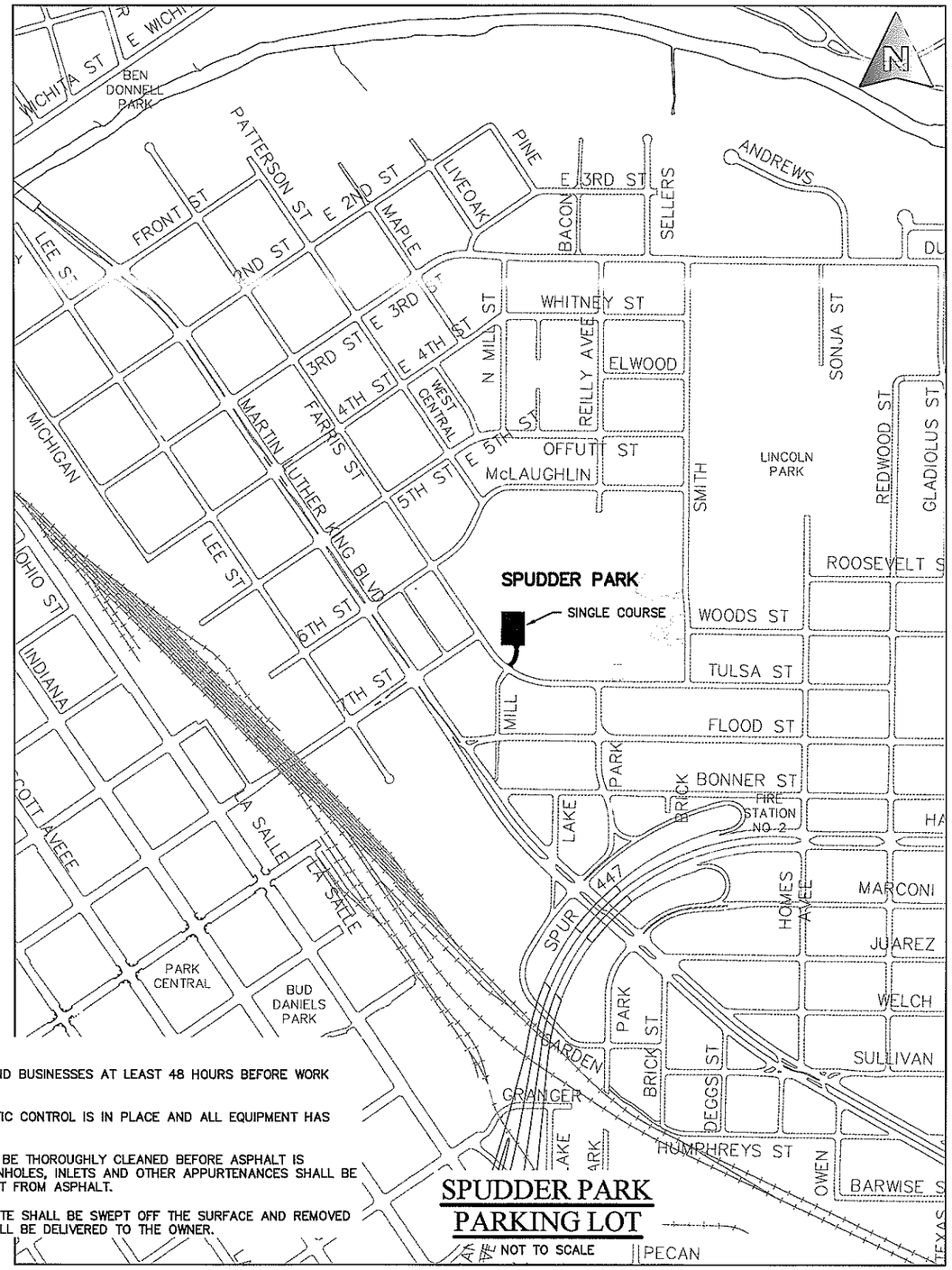
1-16-19
ENGINEERS SEAL





GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

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4) AFTER FINAL ROLLING, SURPLUS AGGREGATE SHALL BE SWEPT OFF THE SURFACE AND REMOVED ON THE SAME DAY. EXCESS AGGREGATE SHALL BE DELIVERED TO THE OWNER.

NO.	DATE	DESCRIPTION	BY
REVISIONS			

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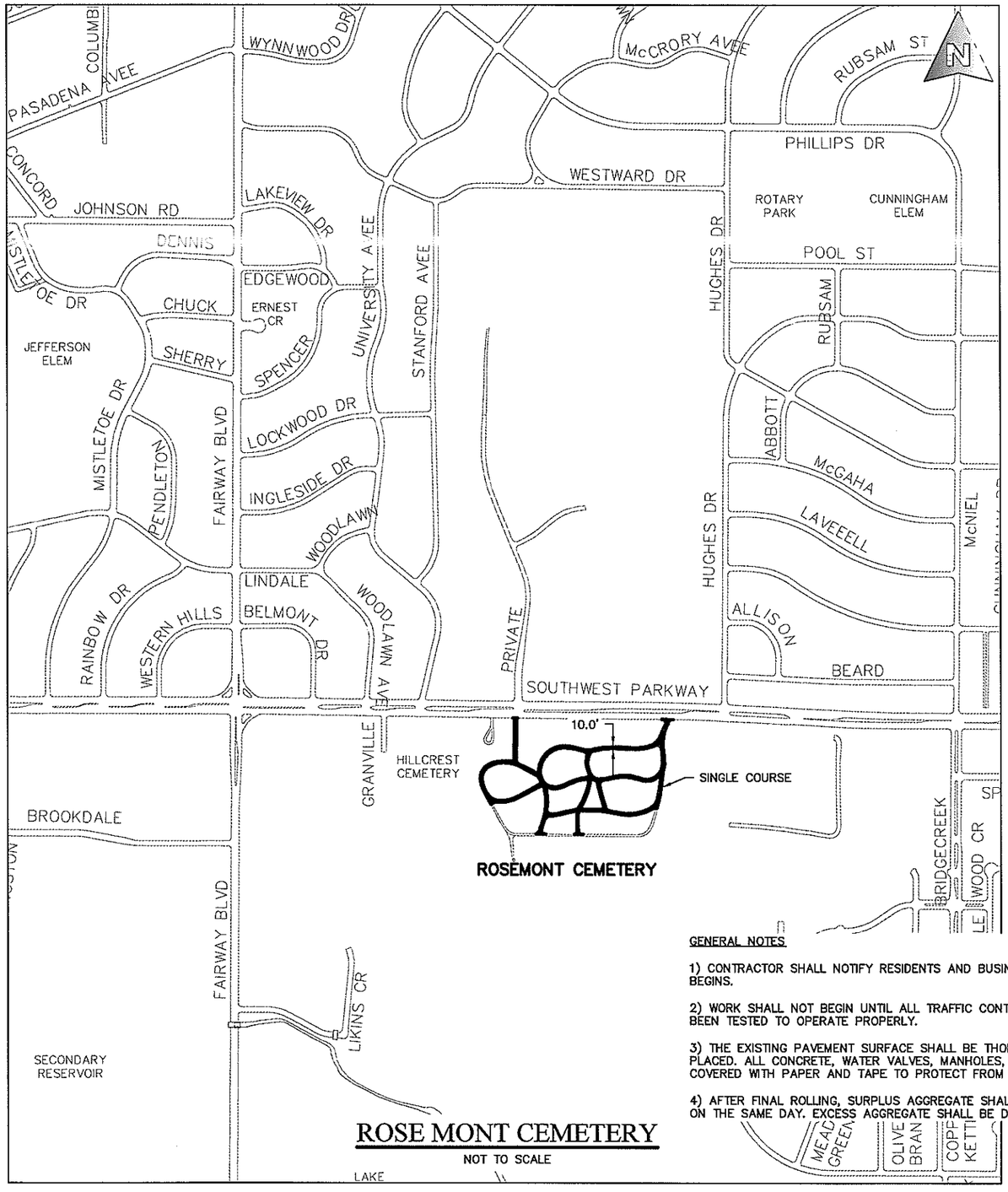
2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 6
BACON SWITCH RD, REILLY RD, SPUDDER PARK

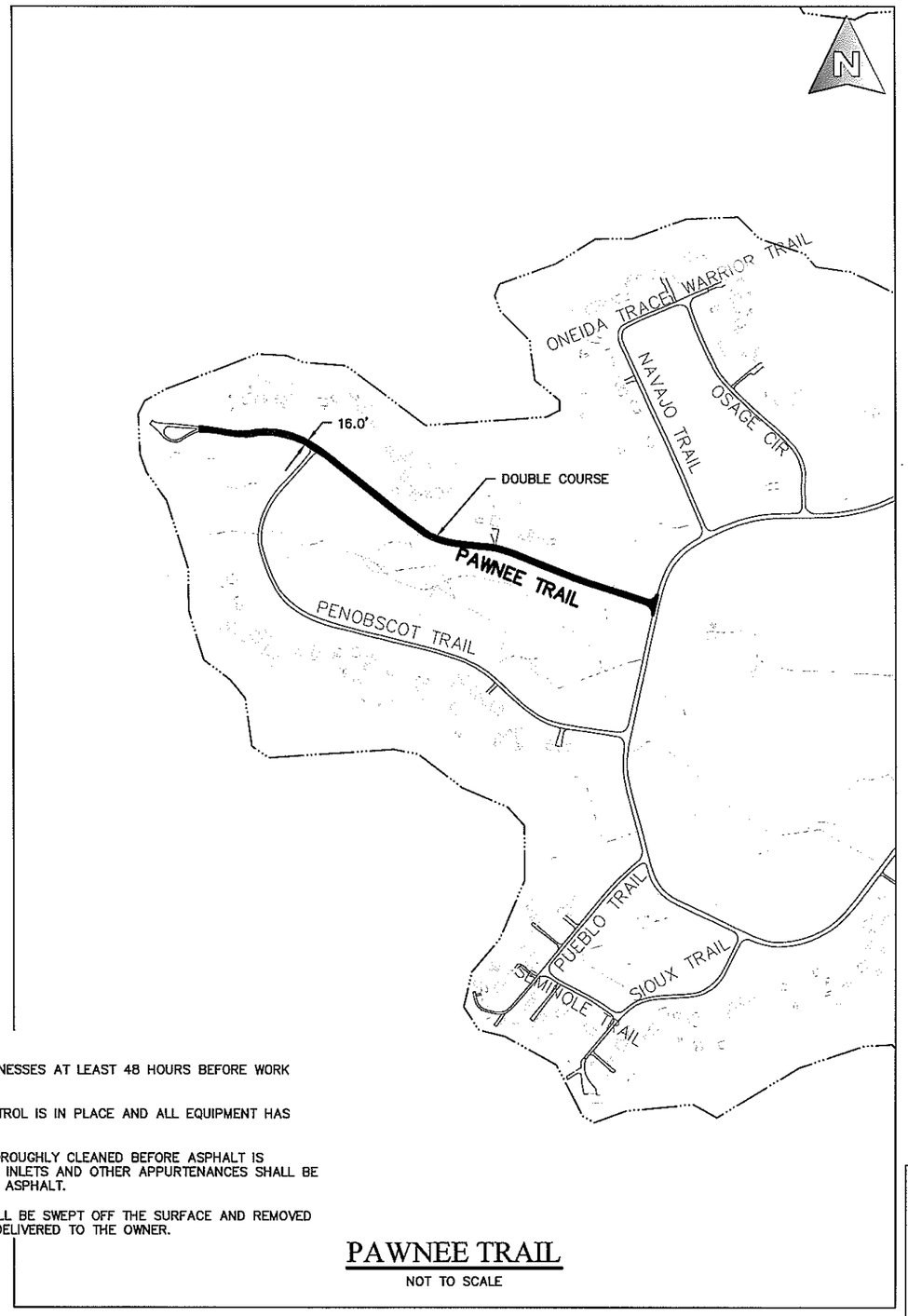
PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SITE PLAN-6

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED PROFESSIONAL ENGINEER
T. Blane Boswell P.E.
7-6-19
ENGINEERS SEAL



ROSE MONT CEMETERY

NOT TO SCALE



PAWNEE TRAIL

NOT TO SCALE

GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

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NO.	DATE	DESCRIPTION	BY
		REVISIONS	

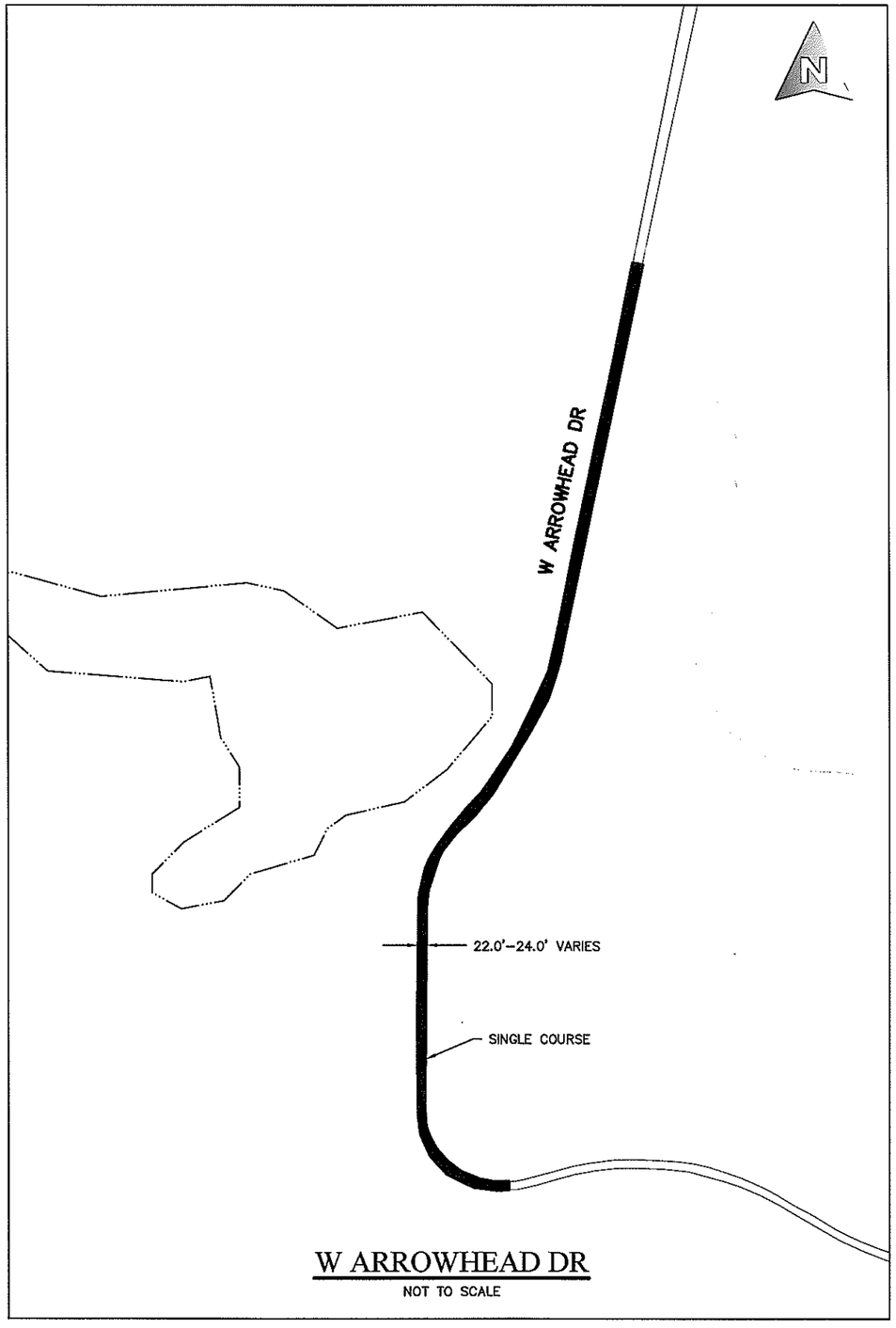
Wichita Falls TEXAS
Blue Skies. Golden Opportunities.

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 7
ROSEMONT CEMETERY, PAWNEE TRAIL

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SITE PLAN-7

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED PROFESSIONAL ENGINEER
P.E.
ENGINEERS SEAL



W ARROWHEAD DR

NOT TO SCALE

GENERAL NOTES

1) CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES AT LEAST 48 HOURS BEFORE WORK BEGINS.

2) WORK SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND ALL EQUIPMENT HAS BEEN TESTED TO OPERATE PROPERLY.

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NO.	DATE	DESCRIPTION	BY

REVISIONS

Wichita Falls TEXAS
Blue Skies. Golden Opportunities.

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

SITE PLAN NO. 8
W ARROWHEAD DR

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: SITE PLAN-8

STATE OF TEXAS
T. BLANE BOSWELL
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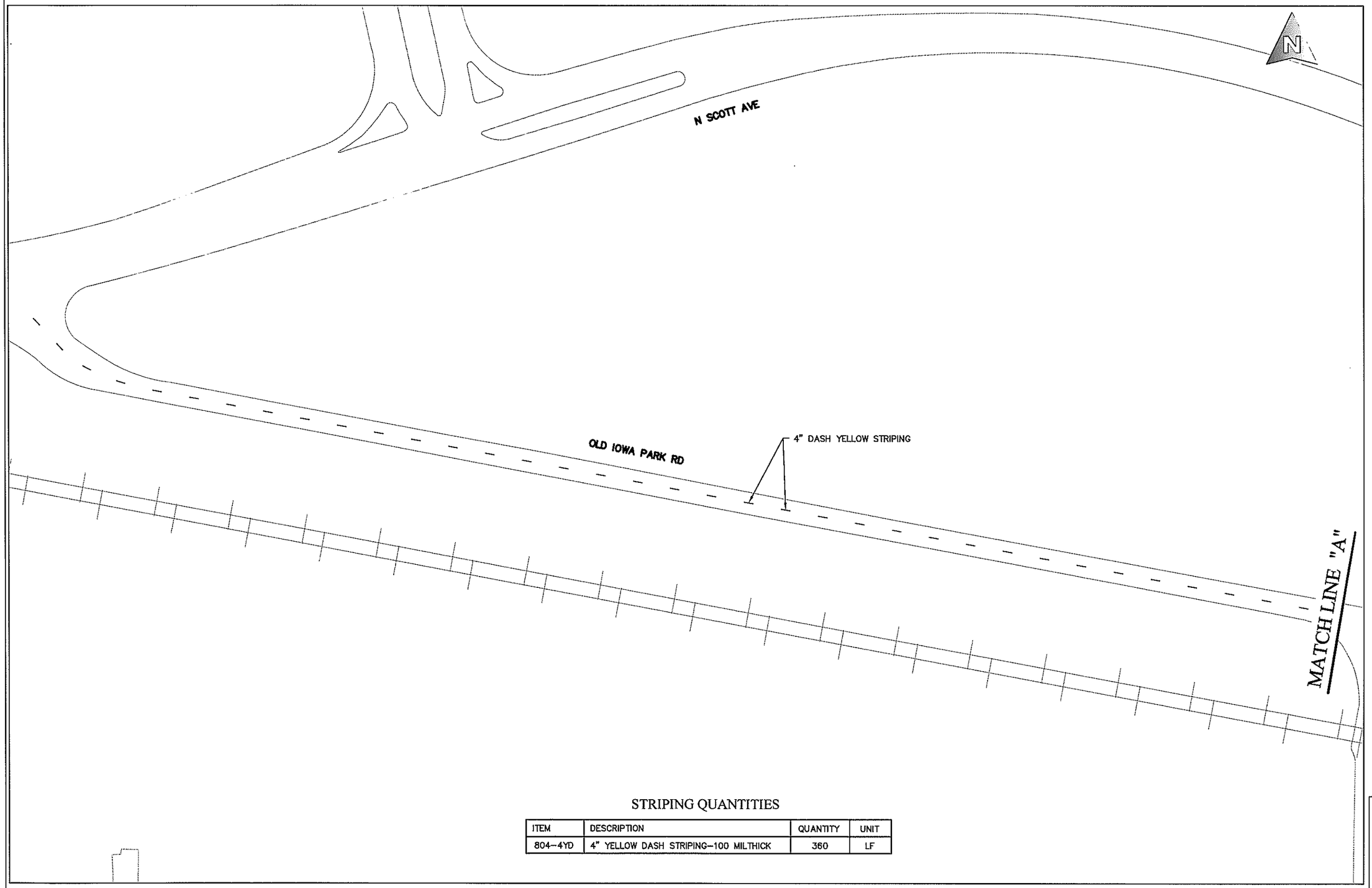
1-16-19
ENGINEERS SEAL



STRIPING QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
804-4YD	4" YELLOW DASH STRIPING-100 MILTHICK	360	LF

STRIPING PLAN
OLD IOWA PARK RD

SCALE: 1" = 100'

NO.	DATE	DESCRIPTION	BY
REVISIONS			

Wichita Falls TEXAS
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2019 SEAL COAT STREETS PROJECT
CWF19-100-12

STRIPING PLAN
OLD IOWA PARK RD

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: STRIPING PLAN

STATE OF TEXAS
T. BLANE BOSWELL
116825
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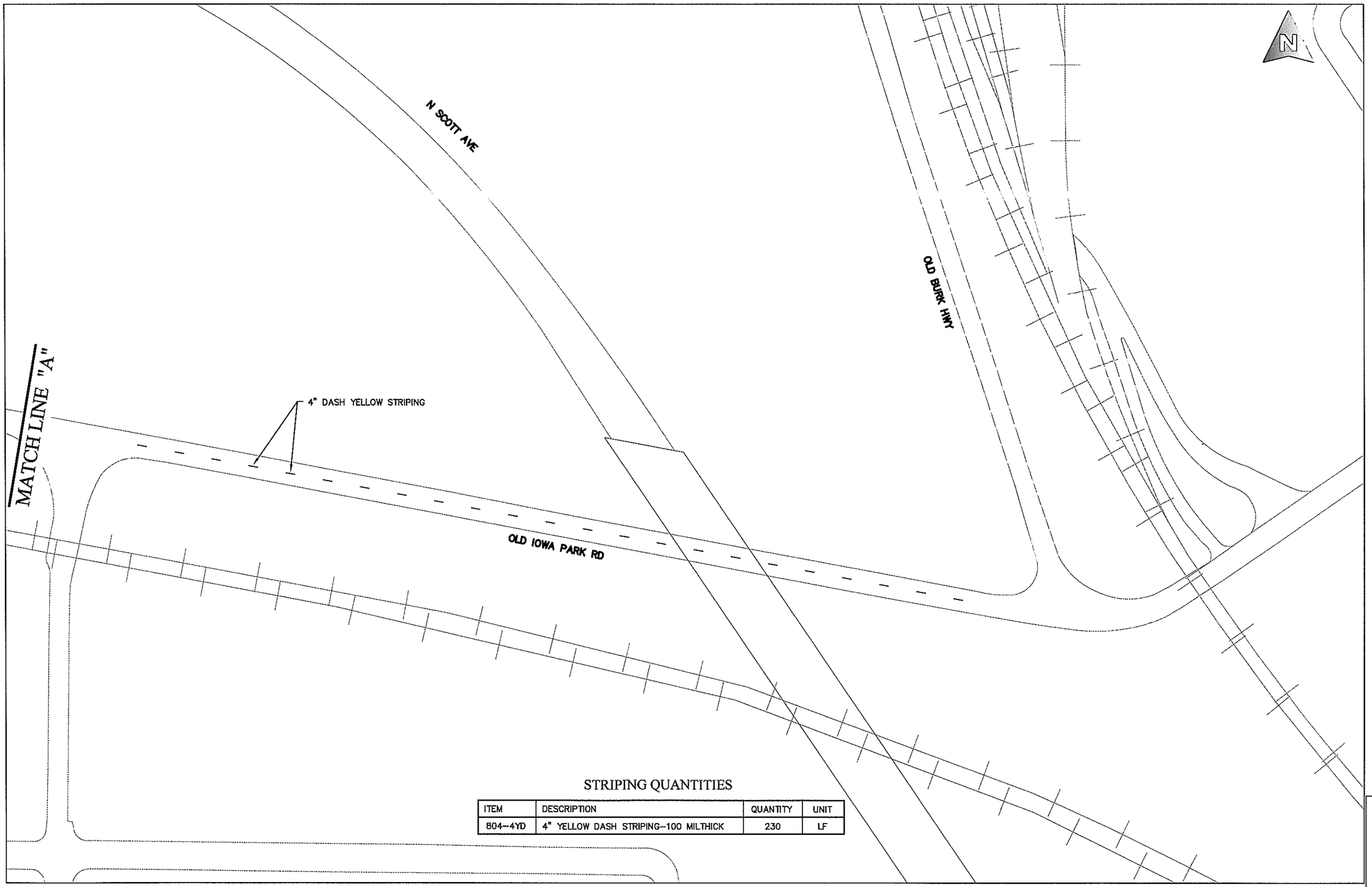
T. Blane Boswell, P.E.
1-16-19
ENGINEERS SEAL

SHEET 14 OF 18



STRIPING QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
804-4YD	4" YELLOW DASH STRIPING-100 MILTHICK	230	LF

STRIPING PLAN
OLD IOWA PARK RD

SCALE: 1" = 100'

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

Wichita Falls TEXAS
Blue Skies. Golden Opportunities

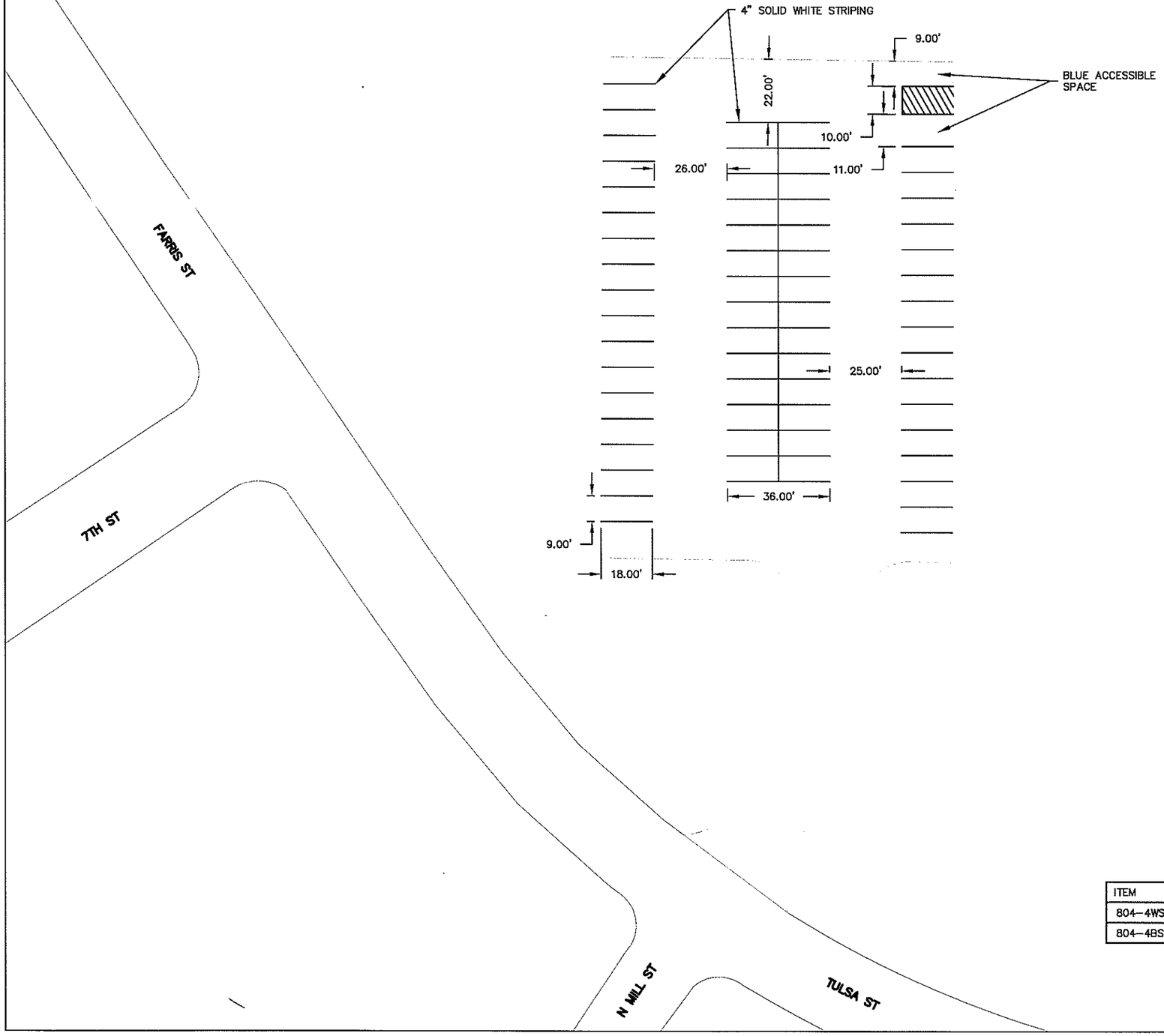
2019 SEAL COAT STREETS PROJECT
CWF19-100-12

STRIPING PLAN
OLD IOWA PARK RD

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: STRIPING PLAN

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED PROFESSIONAL ENGINEER
T. Blane Boswell, P.E.
1-16-19
ENGINEERS SEAL

SHEET 15 OF 18



STRIPING QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
804-4WS	4" WHITE SOLID STRIPING-100 MILTHICK	1260	LF
804-4BS	4" BLUE SOLID STRIPING-100 MILTHICK	151	LF

STRIPING PLAN
SPUDDER PARK PARKING LOT

SCALE: 1" = 40'

NO.	DATE	DESCRIPTION	BY

REVISIONS

Wichita Falls TEXAS
Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

STRIPING PLAN
SUDDER PARK PARKING LOT

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: STRIPING PLAN

STATE OF TEXAS
T. BLANE BOSWELL
116825
LICENSED PROFESSIONAL ENGINEER
T. Blane Boswell, P.E.
1-16-19
ENGINEERS SEAL

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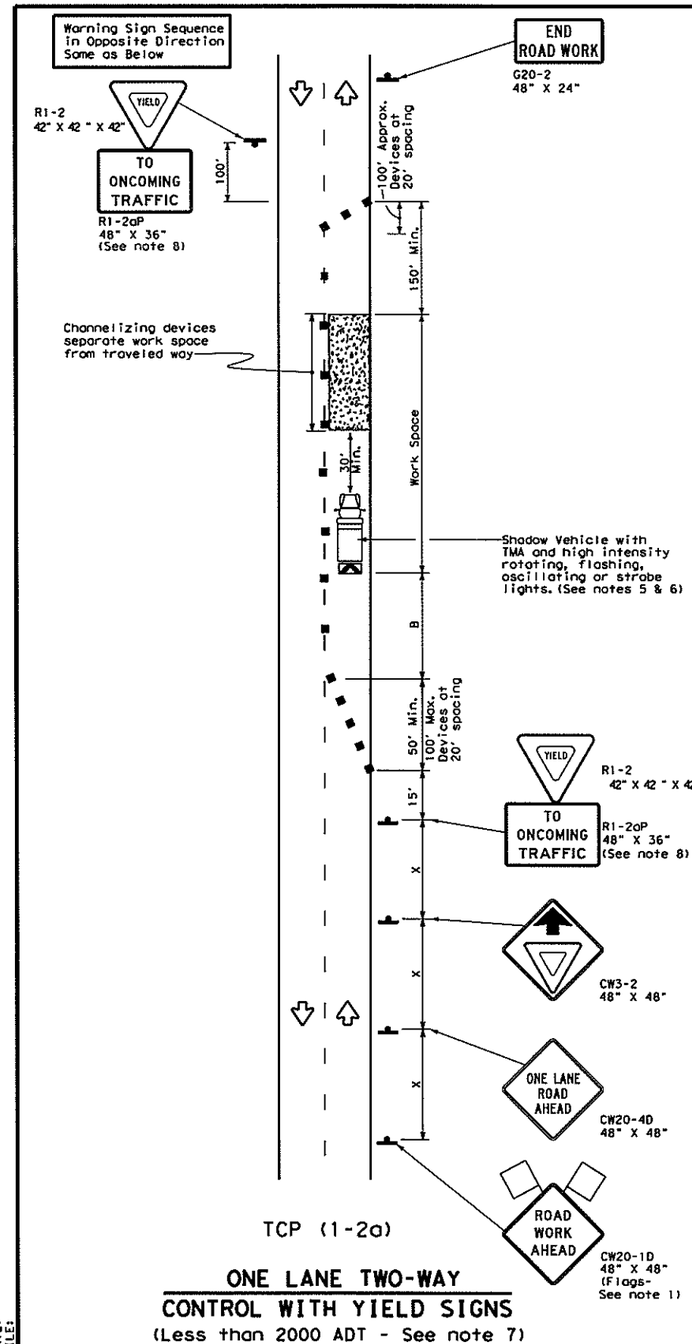
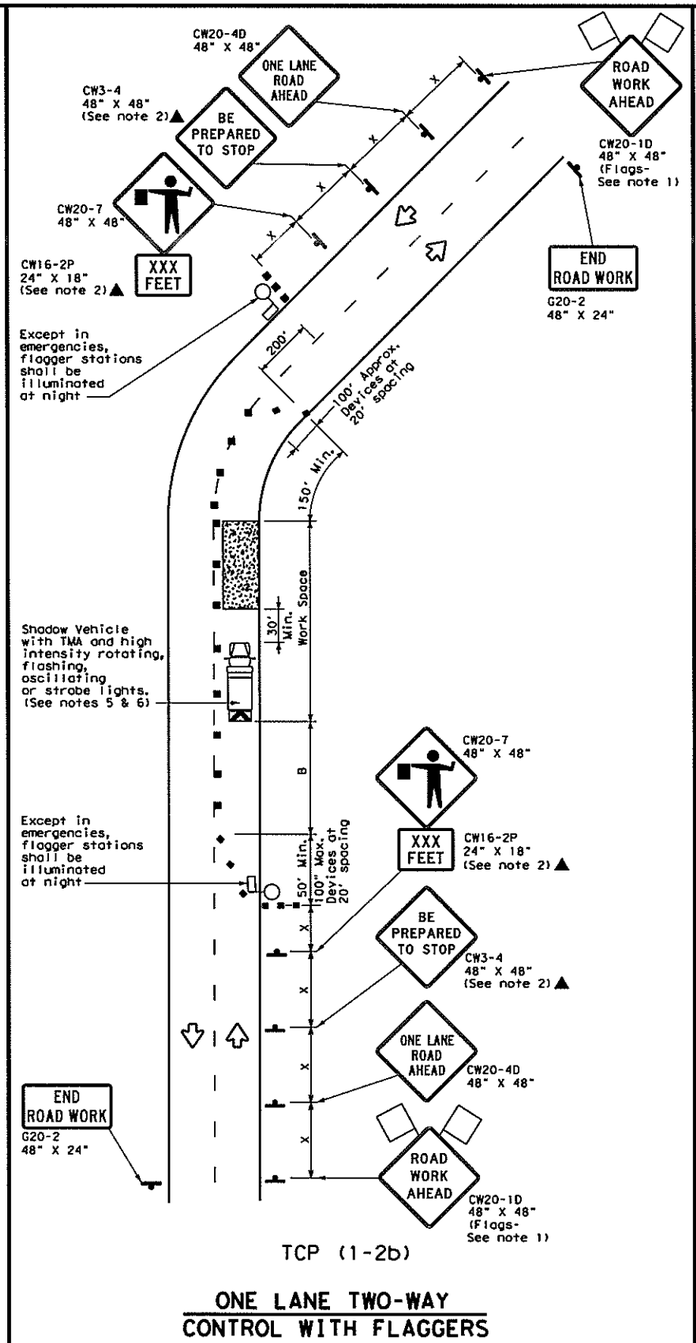


TCP (1-2a)

ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS

(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-12

DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.

REVISIONS
4-90 2-12
2-94
1-97
4-98

152

DATE:
FILE:

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

Wichita Falls TEXAS
Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

DETAILS-1

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: DETAILS-1

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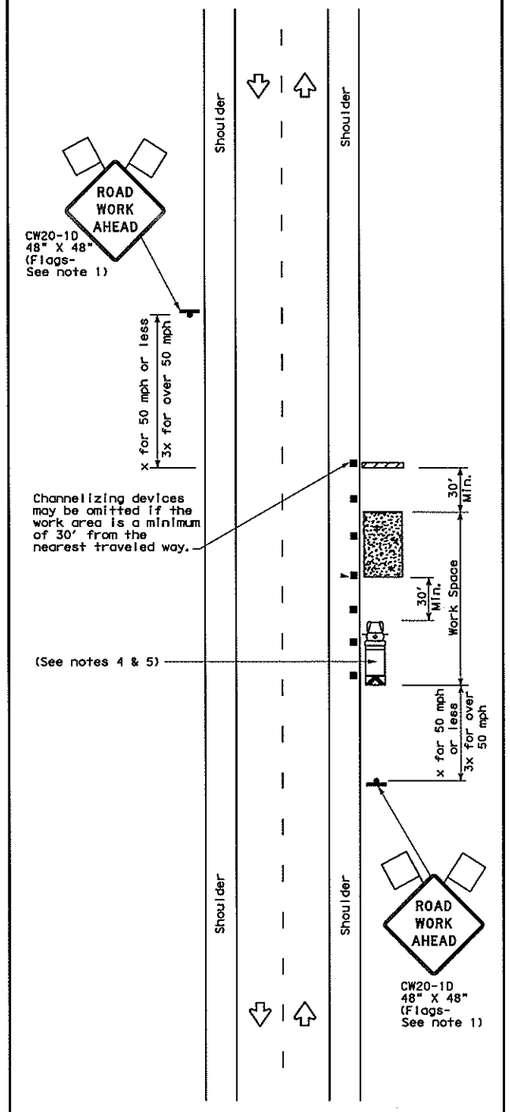
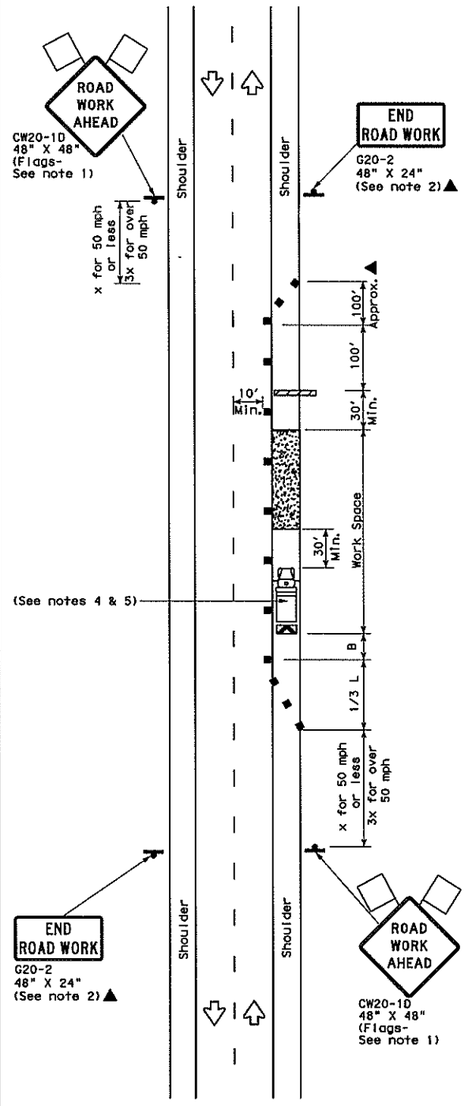


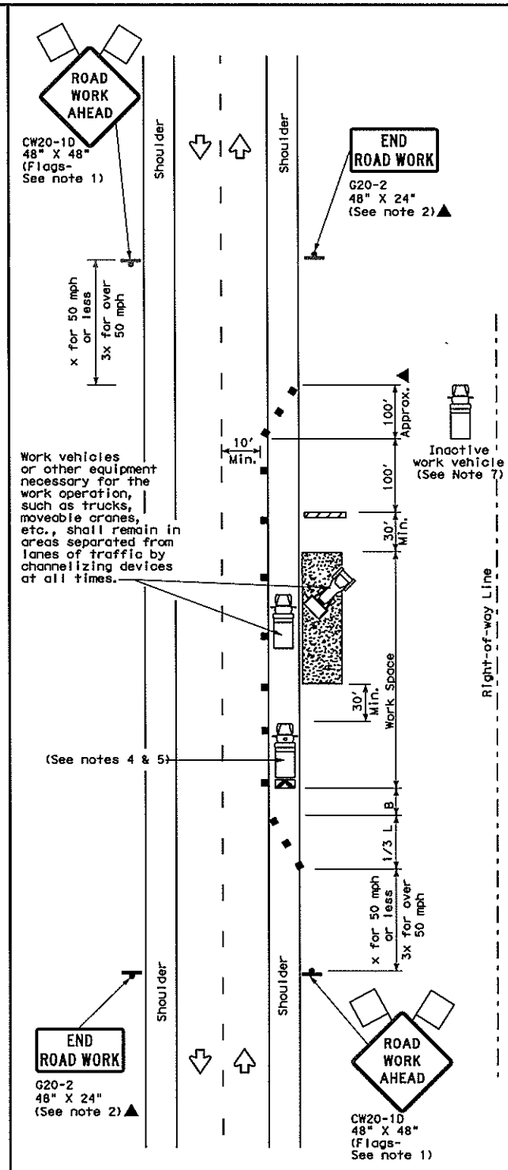
TCP (2-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade	■■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
3. Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
8. CW21-5 "SHOULDER WORK" signs may be used in place of CW21-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(2-1)-12

©TxDOT December 1985	DW: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
REVISIONS	CONT	SECT	JOB	HIGHWAY
2-94 2-12				
8-95				
1-97	DIST	COUNTY		SHEET NO.
4-98				
161				

DATE:
FILE:

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

Wichita Falls TEXAS
Blue Skies Golden Opportunities

2019 SEAL COAT STREETS PROJECT
CWF19-100-12

DETAILS-2

PROJECT MANAGER: BB
DRAWN BY: BLH
PROJECT NUMBER: CWF19-100-12
DATE: NOVEMBER 2018
SCALE: AS SHOWN
FIELD BOOK:
ACAD: 2019 SEAL COAT STREETS PROJECT.DWG
LAYOUT: DETAILS-2

ENGINEERS SEAL

SHEET 18 OF 18